POPULATION TODAY

Vol. 18, No. 11 November 1990

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The 1991 Nigerian census vows to count every citizen—even drought-driven migrants like these. (See page 4.)

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FROM THE EDITOR'S DESK

Question: When does 1985 come after 1990?

Answer: When you're waiting for population data.

The above riddle summarizes a data problem common to many disciplines and constantly apparent in the demographic world: When you scrutinize your statistics, you are peering, not at the present, but into the past.

Into the *deep* past, all too often. Like photons flung outward from an exploding star, data for a country or small area come in spectacular spurts that occur only sporadically and such events may take a considerable time to traverse the universe before reaching your ken.

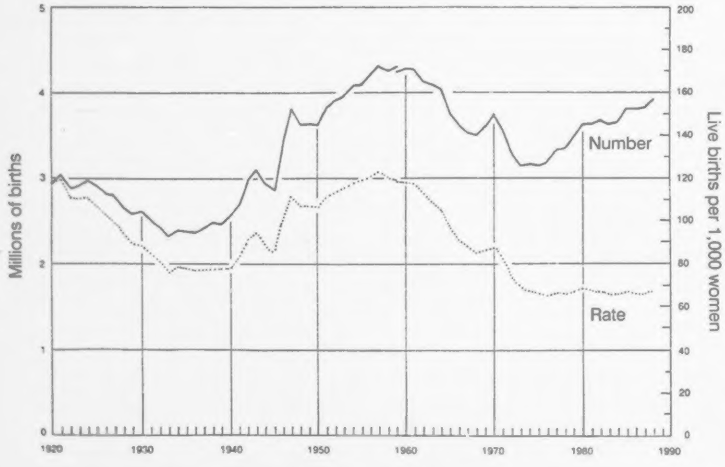
For a particular statistic relating to Country X, say, you would be thrilled to have 1985 data. Unfortunately, you must make do, for now, with 1979 data. Insofar as the arrival of more up-to-date numbers is concerned, 1985 still lies in some Buck Rogers future.

Survey results can help fill in while you wait. But they are never massive or frequent enough to satisfy everyone. Censuses, however, in all their comprehensiveness, do wonders to help you catch up years in a single bound. That's why the U.S. Census is awaited so eagerly every decade. No more falling back on 1980 data to graph the urban-rural distribution of U.S. residents with exactly three children at home. For U.S. population watchers, 1990 is almost here. . . .

–Art Haupt

SPEAKING GRAPHICALLY

Why U.S. Births Increased, Even Though the Fertility Rate Remained Constant



U.S. Live Births and General Fertility Rates, 1920-1988

The general fertility rate is the number of live births per 1,000 women age 15-44. The reason this rate can remain almost level in the late 1970s and 1980s while births drive upward (see figure above) is because the large cohort of women of the baby boom (58 million) has now reached childbearing age.

Source. Monthly Vital Statistics Report, 1990, Vol. 39, No. 4 Supplement.

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New Ties: Population and Environment

Item: At current rates of destruction, the Rondônian rainforests of Brazil will be wiped out in 25 years. The loss of habitat is caused in large part by a new frontier population of migrants who come to take jobs as loggers, ranchers, miners, and farmers.

–*Time, 1/2/89*

Item: Water rights disputes are on the increase in the western United States, where burgeoning cities compete with agriculture in this eternally arid region.

–*Wall Street Journal, 8/16/89*

Item: Environmental organizations take on more population concerns, lobbying hard on the issues.

–*Science, 5/11/90*

There is a common thread to these news items: People are starting again to think in terms of the interrelatedness of population and environmental issues.

Population groups and environmental groups, once somewhat aloof from each other, have been cooperating more. They are lobbying together, attending conferences together, sharing expertise, and–increasingly–adopting each others' issues as their own.

Learning to Cooperate

In the 1980s, two major environmental groups, the Sierra Club and the Audubon Society, began to place more emphasis on population programs, especially in their international operations. The Audubon Society has a population program, with activities to educate and motivate their members to work on population issues. The Sierra Club now has a full-time population lobbyist on staff. Other environmental groups, such as the National Wildlife Federation, are creating positions for the study and advocacy of population issues. The National Resources Defense Council has determined, for the first time, to list world population stabilization as one of its priorities.

NASA

Both population and environmental pressures threaten the biosphere.

Population and environmental issues themselves have changed since the high point of public interest in the 1960s. Population organizations have seen reproductive issues become highly politicized. As the atmosphere thickened with harsh rhetoric, legal battles, and uncertainty, many Americans started to duck population issues –leaving them to the courts, politicians, and special interest groups to sort out.

The environmental movement, meanwhile, experienced a different but also important backlash, due in part to concerns from some quarters that the environmental reforms might be too costly to implement and changing priorities of government and business.

But times are changing; population and environmental issues are finding their place on the public agenda again. New coalitions comprised of religious, civil rights, international development, and political advocacy groups have joined in the national debate. Such groups include InterAction, a coalition of private, voluntary organizations (PVOs) involved with foreign assistance, and the Global Tomorrow Coalition that promotes environmental, population, and sustainable development issues.

For groups used to working exclusively in their own field, collaborating with another discipline is not always a smooth process. Says Fran Weber, director of international issues at the National Audubon Society: "Phase one of the relationship between the two groups was a matter of their recognizing the linkage of their issues. The second phase is much more difficult. Now population and environmental groups must specifically address each other's programmatic areas. It takes time and strong commitments."

Such efforts are now bearing fruit in the Audubon Society's organization of a coalition of groups to lobby for increased appropriations for the population program of the Agency for International Development.

Signs of Change

Although signs of change are on the horizon, formal legislation has not yet passed the U.S. Congress. Two major proposals introduced in 1990 linked environmental legislation to population assistance and growth concerns. The Global Warming Bill introduced by Sen. Tim Wirth (D–CO) called for major increases in family planning to slow global warming. (The bill's population language, however, was gutted in committee.) The House version of that bill (HR 1078), sponsored by Rep. Claudine Schneider (R–RI), called for the United States to up its international population assistance from $220 million to $500 million, and to roll back the Reagan Era policies that forbid funding to population organizations that engage in abortion-related activites. It appears, however, that this bill will make no more progress than an earlier bill introduced by Sen. Albert Gore (D–TN), which linked population and global warming issues.

Meanwhile, the U.S. Environmental Protection Agency seems to be considering population stabilization on its official agenda. A recent issue of the *EPA Journal* featured a forum of six commentators on the question, "How Big Is the Population Factor?" In the lead story of the same issue, Lester Brown called for stabilizing population size to avoid "a wholesale deterioration in living conditions in much of the world." Brown is president of Worldwatch Institute, an organization

Continued on page 9

UN Projections Rise Slightly Higher than 1989

The UN Population Division has released its latest assessment of where world population numbers are headed for the next 35 years.

Conducted every two years, the country-by-country assessment is one of the world's most thorough and comprehensive. The release of these statistics is an event that international population specialists always await with eagerness. This year's study projects a world population of 6.261 billion in 2000, and 8.504 billion in 2025. These medium-variant numbers are slightly higher than the previous assessment, released in 1988. But the rise is only a few tens of millions over the 1988 estimates. The 1988 assessment, by contrast, showed a considerable rise over 1984 – a rise that by 2025 amounted to hundreds of millions – because fertility around the world was falling more slowly than anticipated.

Conducting a comprehensive assessment is a considerable task; population projections cannot be done with simple pocket calculator bank-interest formulas. The cohort-component method is used for each country. That is, the known (or estimated) age-sex structure of the country is first obtained in five-year age groups. Age-specific fertility and mortality figures are applied to these numbers. As births and deaths occur, the population changes through time. These changes themselves affect further changes, and so forth.

The underlying fertility and mortality rates also change through time; for example, the UN's medium-variant projection posits the world's total fertility rate (TFR) as declining from an average 3.45 lifetime children per woman as of 1985-1990 to 2.27 in 2020-2025. Meanwhile, the world life expectancy, 63.9 years in 1985-1990, rises to 72.9 years in 2020-2025.

The projections assume that the TFR of the less developed countries will fall from the present 3.94 to 2.32 by 2025, almost replacement-level fertility. But while the more developed countries (with a projected TFR of 1.89 as of 1985-1990) are assumed to experience a slight fertility rise, the assessment does not assume that they will attain replacement level within the time span covered.

Summary of the UN Assessment for 1990

Region and projection variant	Projected population in millions		
	1990	2000	2025
World			
High	5,327	6,420	9,444
Medium	5,292	6,261	8,504
Low	5,262	6,093	7,591
More developed countries			
High	1,210	1,286	1,466
Medium	1,207	1,264	1,354
Low	1,203	1,246	1,254
Less developed countries			
High	4,117	5,134	7,978
Medium	4,086	4,997	7,150
Low	4,059	4,847	6,336

Source. United Nations, *1990 Revision of World Population Prospects* (New York: United Nations, 1990).

The assessment (its formal title is *1990 Revision of World Population Prospects)* is prepared by the Estimates and Projections Section of the UN's Population Division. About half-a-dozen staff demographers are involved full-time for two years in its preparation.

The largest portion of their labor is applied not to the projections of the future, but to country-by-country estimates of the past, from 1950 to the present. What data do the UN use? "Whatever we can get our hands on," says Population Officer Joseph Alfred Grinblat of the Estimates and Projections Section. "Official statistics, analyses, surveys. . . . The past doesn't change but the knowledge of the past does."

The assessment's tables of past populations and vital rates are as comprehensive as those for the present and future. By comparison, the projections are a mathematical operation. Once the laboriously prepared estimates and assumptions are figured in, the actual projections are churned out by a mainframe computer in the Population Division.

Because of the scope of such an effort, few other population organizations try to assess world population trends so comprehensively. Two organizations that do are the World Bank, which performs extensive population projections for its reports, and the U.S. Census Bureau, which publishes its own projections. Neither organization, however, evaluates the past as extensively as the UN assessment.

PRB's annual *World Population Data Sheet* credits its population totals and vital rates to the UN assessment, as well as to other UN studies, other sources, and PRB's own evaluations.

The UN's *1990 Revision of World Population Prospects* was released in May, and is available on computer tapes and diskettes. A printed bound version will be available in about a year.

–A.H.

For further information, contact: Estimates and Projections Section, Population Division, Department of International Economic and Social Affairs, United Nations, New York, N.Y. 10017.

Nigeria Prepares for Census

In November 1991, Nigeria will conduct a census, an event long in preparation by that country's National Population Commission. One task on the commission's agenda is studying the many reasons why Nigeria's previous two censuses failed.

Ibanhim Biu, associate director of public affairs for the commission, explained some of the past problems on a recent Washington visit. For example, the 1963 and 1973 census operations lacked maps, clearly marked census boundaries, computers, and trained enumerators. The commission did not

Continued on next page

Nigerian Census

Continued from previous page

advertise that the census was being undertaken, and since each census was taken over the course of several months rather than everywhere simultaneously, many people were missed. As an enumerator for the 1973 census, Biu witnessed how easily data could be improperly manipulated in such an open system.

Population estimates for Nigeria range around the 119 million mark. The commission is determined to count every Nigerian in 1991. It has divided Nigeria into 200,000 census tracts of about 500 people each. These small areas will enable the commission to quickly detect enumeration problems. Census pretests have been held in some areas.

The commission is already training enumerators and distributing census publicity, using music and radio to explain the importance of the census to the public.

Biu has made frequent trips across the country to scout out problems in advance. He has found, for example, that the census posters are essentially useless in areas where people work from early morning until dark because people never see the posters.

The census will collect data through door-to-door interviews and by fingerprinting, over a period of three days. The government will restrict people's movement during this time to avoid multiple counts.

This census will include punishment for enumerators and interviewees who fabricate data.

Nigeria is a heterogenous country, so much so that authoritative numbers concerning subpopulations would be a subject of controversy. Hence, questions on sensitive issues–tribe, ethnicity, or religion–will not be included in the census. Detailed information on social and economic characteristics will be collected at a later date.

The commission is calling for help from international organizations, especially in training statistics analysts. The United Nations Population Fund is one organization supporting the census.

–M.Y.

SURVEY REPORT

Sudan

With the publication of preliminary results from the Sudan Demographic and Health Survey 1989-1990 (SDHS), Phase I of the Demographic and Health Surveys project is complete. Phase II has already begun and will include about 25 additional country surveys.

If recent fertility rates continue, according to the SDHS, Sudanese women will have on average five children by age 50. This represents a decline of one child per woman from the rate of six found in 1979. Much of the decline has taken place among women age 15-29. More than a fourth of married women say they want no more children, and another third want to wait at least two years before having another child.

Seventy-one percent of married women in Sudan recognize at least one method of family planning; virtually all of these women recognize the pill. Six in 10 say they know where to obtain a modern method. Although a fourth of married women have used some method of family planning in the past, only 9 percent are currently practicing family planning. The most frequently used method is the pill (3.9 percent), followed by periodic abstinence (2.2 percent), female sterilization (0.8 percent), and the IUD (0.7 percent).

Use of family planning varies greatly by place of residence and level of education. Seventeen percent of urban married women, but only 4 percent of rural women, practice family planning. Women with secondary or higher education are eight times more likely to use family planning than women with no education. Of those surveyed, 58 percent had no education and 63 percent lived in rural areas.

About equal proportions of women using a modern method of family planning received their method most recently from a government hospital (21 percent), a government health center (23 percent), or a pharmacy (23 percent). Most users of periodic abstinence obtained information about the method from friends or relatives (53 percent), and one in five received information from a private doctor.

Among married women who are not currently using family planning, but who said they would be unhappy if they became pregnant soon, 39 percent felt they were not at risk of pregnancy because they are breastfeeding, menopausal, or have infrequent sexual intercourse. Another 21 percent said they lack enough knowledge, and 12 percent were concerned about health effects.

For the majority of the births in the five years prior to the SDHS, mothers received some antenatal care. Forty-five percent of the mothers received a tetanus toxoid injection, and 71 percent had at least one prenatal checkup by a doctor, trained health worker or midwife.

About three-quarters of children age 12-23 months reportedly received at least one vaccination against childhood disease. But only half have received all the recommended vaccinations. Coverage is greater for male children, those in the urban areas, and those whose mothers have at least a primary education.

Diarrhea and acute respiratory infections are common among children in Sudan. About one in three children under age five had diarrhea in the two weeks prior to the survey, and about a third of these children were treated with oral rehydration therapy. Half of the children under age five had a cough and 60 percent were taken to a medical facility for consultation.

–B.C.S.

DEMOGRAPHER'S PAGE

Unmet Need and Nonuse of Family Planning in Botswana

by Gwenda Brophy

Measuring unmet need–that is, developing a quantitative indicator that shows the proportion of women, by age and by socioeconomic status or geographical location, who are in need of family planning services–is of key interest to family planning program providers.[1] Identifying unmet need has important implications for targeting underserved groups and making efficient use of resources. However, while the concept is simple enough in principle, estimating unmet need in a meaningful way is much more complex in practice.

The main problem is deciding on the pool of women who should be considered. Variations in this pool's composition can result in vastly different results.[2] For example, current unmet need may be low if women who are temporarily not at risk of pregnancy, such as women who are amenorrheic or already pregnant, are excluded from the pool. The following analysis looks at current and potential unmet need in Botswana and examines reasons for nonuse of family planning.

The Context

In a continent with low contraceptive use, a result of both high desired fertility and insufficient delivery systems for family planning services,[3] Botswana (population 2.2 million) stands out. The country has one of sub-Saharan Africa's highest reported contraceptive prevalence rates.

The 1988 Botswana Family Health Survey II (BFHSII), a national sample of 4,368 women age 15-49, recorded contraceptive use of 33 percent among women in union.[4] Nevertheless, even in countries with relatively high prevalence, sizable additional demand for contraceptive services can exist.[5]

The denominator for contraceptive prevalence is all women in union regardless of their status. Women who are currently pregnant, amenorrheic following a birth, or infecund are included in this denominator, but constitute only a small portion of the contraceptive users in the numerator.

Two important points. First, reported status in surveys is subject to misreporting. For example, those reported as pregnant should more accurately be termed recognizably pregnant, since some women may not be aware of a current pregnancy; some of the older women reporting themselves as amenorrheic may have drifted from that status into infecundity; self-reported infecundity tends to underreport true infecundity, and some of those who say they are amenorrheic may have in fact resumed ovulation.

Second, some women were in more than one status simultaneously. Among all women age 15-49, for example, 16 percent were also breastfeeding and 5 percent were amenorrheic. As Table 1 shows, a relatively high proportion of the surveyed women had a current status of met need because so many were pregnant or amenorrheic, or wanted to become pregnant. Before age 30-34, the bulk of unmet need appears to be for spacing; after that age, unmet need for limiting births predominates. Converting the unprotected nonusers into contraceptive users would result in an increase of 199 users, equivalent to a contraceptive prevalence rate of 45 percent.

The current unmet need, however, may be inflated by two factors: underreporting of infecundity, which does appear too low, and spousal separation. Much internal migration exists in Botswana, as men travel to work to

Table 1. Contraceptive Status of Women, Botswana, 1988

Contraceptive status	Percent of women in union, by age group						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Protected/met need							
Using contraception	17.2	25.8	37.1	35.6	38.3	36.1	16.7
Pregnant	14.0	12.2	11.4	9.7	7.8	4.3	0.4
Amenorrheic/abstaining[a]	21.5	19.1	22.1	18.0	15.0	11.1	7.2
Infecund/menopausal[b]	0.0	0.0	0.0	0.4	0.6	3.1	14.7
Wants a birth soon[c]	36.9	34.2	20.1	25.6	24.5	29.2	36.7
Undecided[d]	0.0	0.3	0.2	0.2	2.0	0.9	0.0
Unprotected/unmet need, by reproductive intention							
Want to space	8.6	7.6	6.7	5.5	2.1	2.1	0.0
Want to limit	1.9	0.4	2.4	5.0	9.7	13.2	24.3
Total	100	100	100	100	100	100	100
Number of women	54	238	420	382	290	182	140

a. Does not include amenorrheic women using a modern contraceptive.
b. Self-reported infecundity or menopausal status.
c. Women who would be happy, or it would not matter, if they got pregnant in the next few weeks, and women who want a birth within two years *and are not using* family planning.
d. Women who are undecided about reproductive intentions (those undecided about the timing are included in the "want to space" group.) Undecided also includes 19 women for whom no information was available regarding reproductive intentions.

Source. Botswana Family Health Survey II, 1988.

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living in the United Kingdom

lands far away from their home village.

We have so far considered only the current status of unmet need. Table 2 shows the reproductive intention of women who are currently pregnant or amenorrheic. (For pregnant women, this means their reproductive intention after the current birth.)

Analysis of the main reason for nonuse given by women who would be unhappy if they became pregnant in the next few weeks, suggests that the key factor is the woman's own attitude toward family planning formed by her own opposition to family planning, the influence on her of others' opposition, or concerns about health issues. However, as Ainsworth has pointed out, a survey question on the main reason for nonuse neglects to take into account that "in fact, many reasons may apply. Reducing any one of these, therefore, may merely shift the distribution of responses rather than reduce nonuse."[6]

Costs do not play a significant role in decisions whether or not to use contraception. This is not surprising given the low charges (an annual fee of 0.4 Pula, or about one dollar) levied by the government program that provides the bulk of Botswana's family planning services.[7] Geographical distance, too, appears to be relatively unimportant, or at least does not correlate with whether users feel contraceptives are "difficult to get."

Well-constructed qualitative research may suggest the prevailing "package" of costs to women in adopting family planning. Additional areas for exploration include analyzing the "elasticity" of the desires to limit births and determining to what extent firm desires by women to limit births tend to be overridden by men.

Given the high rate of unplanned births, the contraceptive experience of those with current and potential unmet need—whether they have ever been users or have experienced side-effects or contraceptive failure—is of key importance. If substantial proportions of women are experiencing contraceptive failure or abandoning use, then it emphasizes the need, ironically, to include current users as having potential unmet need.

Table 2. Currently Pregnant or Contracepting Amenorrheic Women Who Wish to Limit or Space Their Next Birth, Botswana, 1988[a]

Contraceptive status	Women in union, by age group						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Pregnant							
Percent who want to limit	25.0	17.2	39.6	29.7	56.5	75.0	0.0
Percent who want to space	75.0	65.5	50.0	54.1	34.8	0.0	0.0
Number of women	8	29	48	37	23	8	1
Contracepting amenorrheic							
Percent who want to limit	11.1	22.9	42.4	50.0	62.5	55.5	27.8
Percent who want to space	55.5	62.9	43.5	35.9	32.5	27.7	11.1
Number of women	9	35	85	64	40	18	9

a. The residual group, not wanting to limit or space births, expressed the desire to have another birth within two years or are undecided.

Source. 1988 Botswana Family Health Survey.

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The author would like to thank the Central Statistics Office of the Ministry of Finance and Development Planning and the Ministry of Health, Botswana, for providing access to the data.

PRB's Offices Will Be Moving . . .

Beginning January 1, 1991, PRB will have a new home. We will be moving into new offices at 1875 Connecticut Avenue, N.W., Suite 520, Washington, D.C. 20009.

More details will be forthcoming in future issues of *Population Today.*

A 30-Year Revolution in World Family Planning

Over the past 30 years, beneath the ebb and flow of day-to-day news headlines, a long-running story of historic proportions has been unfolding: the worldwide family planning revolution.

This revolution was sparked by a gathering consensus that people should have control over their own fertility, as well as by concern about the ultimate effects of the unprecedented surge of population growth after World War II. Breakthroughs in contraceptive technology that reached the marketplace in the 1960s gave it further impetus.

In PRB's newest *Population Bulletin,* "The International Family Planning Movement," authors Peter J. Donaldson and Amy Ong Tsui chronicle the movement's history from its beginnings in the early 1900s, when birth control was considered immoral and was openly promoted only by a small band of advocates. (At that time, world population was less than 2 billion.)

Today, a transformation in fertility attitudes and practices ranges across the globe and involves the great majority of countries. Family planning flourishes in many poor, agricultural societies in the Third World—where in some cases, the very concept of family planning was unacceptable a few decades ago. In the less developed world today over half of married women of childbearing age use contraception.

How did this revolution come to pass? One important factor, say Donaldson and Tsui, was the active promotion of family planning by various individuals, organizations, and government agencies, starting in the 1950s. Population specialists and economic planners argued that population increases would have mounting negative economic consequences, and that birth control, among other benefits, improved the health of and fostered reproductive freedom for women.

Acceptance came slowly. But as countries gained experience in implementing effective family planning programs, and as the effects of continued population growth became evident, more and more governments became active in providing family planning options for their own people.

Today family planning has become a widespread, well-institutionalized program that involves most of the world's governments, as well as such international organizations as the UN Population Fund, foreign assistance agencies, private philanthropic groups, nonprofit organizations, and a host of committed individuals.

The family planning movement, together with the effects of economic and social development, have helped lower world population growth from the 2.5-percent annual increase in the less developed countries during the 1960s to about 2 percent today—a difference that translates into a world population total that will be billions less in the early 21st century.

Donaldson is the Population Council's Senior Representative for South and East Asia. Tsui is Professor of Maternal and Child Health at the University of North Carolina, Chapel Hill, and Deputy Director of the Carolina Population Institute.

—*A.H.*

Copies of the 48-page *Population Bulletin,* "The International Family Planning Movement," by Peter J. Donaldson and Amy Ong Tsui (Vol. 45, No. 3, November 1990), can be ordered from PRB, Circulation Dept., P.O. Box 96152, Washington, D.C. 20090-6152; make checks payable to PRB. Or call 1-800-877-9881. Visa and MasterCard accepted. Prices for the *Bulletin* are: $7.00 a single copy; 2-10 copies, $6.50 each; 11-50 copies, $5.50 each; 51 or more, $4.00 each. Orders of $50.00 or less must be prepaid and include $1.00 or 3 percent of total order (whichever is greater) for postage and handling.

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Applications are invited for the PRB Visiting Scholar Award for the nine-month period beginning September 1991.

The recipient of the award, made available under a grant from the Andrew W. Mellon Foundation, will spend at least nine months at PRB's Washington, D.C., office conducting a population-related project of either domestic or international focus. Priority will be given to policy-oriented projects that attempt to synthesize work on a particular topic (including the scholar's own contribution).

The negotiable stipend is comparable with academic salaries and includes transportation costs. Applicants are requested to submit a brief estimate of transportation and salary requirements; applications combining the award with sabbatical leave are encouraged.

Closing date for applications is January 15, 1991. Interested individuals should submit a brief description of their planned activities, curriculum vitae, and a sample of recent publications to the address that follows.

Interns for Summer 1991:
Applications are invited for the PRB Internship Program for Summer 1991.

Open to both undergraduate and graduate students, PRB internships enable persons with a strong interest in population to assist professional demographers working on national and international issues. Some population-related work is useful but not a prerequisite. Interns usually work 35 hours a week and receive a stipend of $8.00 per hour.

Closing date for applications is February 1, 1991. Interested individuals should forward a letter of application to the address below, describing completed academic studies, future academic plans, population interests, and any additional information supporting their candidacy. Three letters of recommendation from instructors should be sent separately.

Contact:
Dr. William O'Hare
Population Reference
Bureau, Inc.
777 14th St., N.W., Suite 800
Washington, D.C. 20005
Phone (202) 639-8040

Population and Environment

Continued from page 3

which has long linked environmental with food, peace, and population issues.

On the international front, the July Houston Economic Summit of the world's seven wealthiest countries issued a joint statement that called on its members to support the efforts of developing countries to maintain the balance between population and resources.

The upcoming 1992 UN Conference on Environment and Development in Rio de Janeiro, Brazil, has as a goal to raise consciousness about the links between environmental and population issues. This major conference will bring together 160 UN delegations and 20,000 activists, who will then bring this approach back to their home countries.

Linkages for the 1990s

World population is now passing through an extremely crucial period. While fertility *rates* have fallen since the peak 1960s, population *numbers* are rising rapidly, and the next two decades will see the largest annual population increases ever.

A recent meeting in Costa Rica of Central American business leaders—many of whom are politically conservative—put the linkage this way. The 1980s had been the decade of war and debt, they said. The 1990s would be the environmental decade, and the years 2000-2010 would be the population decade.

But a better prediction may be that the 1990s will prove neither to be exclusively the Decade of the Environment nor, for that matter, the Decade of Population—but as the decade when both sets of issues need to be addressed fully and in union.

—Mark Haskell

Mark Haskell is an international program officer in the Washington, D.C., office of the Population Resource Center. The Center monitors legislative issues of concern to the Population Association of America. Neither the center nor the association advocates any particular population policy but works to protect funding for quality demographic research.

SOFTWARE

UDemog is population-education software for the IBM PC and compatibles. *UDemog* teaches the student or independent user basic demographic concepts.

Demog includes: a demographic equation module, which introduces students to the three demographic components (births, deaths, and migration) and how to incorporate them in calculating natural increase and other rates. The second module introduces six basic fertility measures: crude birth rate, age-specific birth rate, total fertility rate, gross reproduction rate, and replacement-level fertility. The third module presents three basic mortality measures: crude death rate, age-specific death rate, and infant mortality rate. It also includes a column-by-column lesson on constructing a life table.

UDemog requires at least 256K of memory, DOS 3.0 or higher, and a color graphics card. Individual copies are $75.00; class and site licenses are available for institutions that belong to the Wisc-Ware consortium. Refer to Package 329 when ordering. Contact: Wisc-Ware, Academic Computing Center, 1210 West Dayton St., Madison, Wisc. 53706. Phone: (800) 543-3201.

—A.H.

POPULATION UPDATE

Estimated United States Population:

As of July 1, 1990	251,394,000
As of July 1, 1989	248,762,000

The above estimates, the latest available, include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports,* Series P-25, No. 1064. The estimates do not yet incorporate the preliminary results of the 1990 Census.

Estimated World Population:

As of November 1990	5,352,000,000
Annual growth	93,000,000

Extrapolation from the mid-1990 population on PRB's *1990 World Population Data Sheet.*

Latest Provisional Statistics for the U.S.: June 1990

	12 months ending with June					
	Number		Rate			
Item	1990	1989	1990	1989	1988	1987
Live births	4,131,000	3,957,000	16.6	16.0	15.8	15.5
Deaths	2,170,000	2,149,000	8.7	8.7	8.9	8.7
Natural increase	1,961,000	1,808,000	7.9	7.3	6.9	6.8
Marriages	2,405,000	2,398,000	9.6	9.7	9.7	10.1
Divorces	1,172,000	1,183,000	4.7	4.8	4.8	4.8
Infant deaths	38,700	38,900	9.4	9.9	10.0	10.1
Population base (in millions)	. . .	. . .	249.6	247.1	244.5	242.2

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.
Source. Monthly Vital Statistics Report (Vol. 39, No. 6) from the National Center for Health Statistics.

TAKE A NUMBER

The World Population Clock 1990

		World	More developed countries	Less developed countries	Less developed (less China)
Mid-1990 population:		5,321,268,000	1,214,110,000	4,107,158,000	2,987,281,000
Births per:	Year	144,386,272	17,932,084	126,454,188	103,127,150
	Month	12,032,189	1,494,340	10,537,849	8,593,929
	Week	2,769,044	343,902	2,425,142	1,977,776
	Day	395,579	49,129	346,450	282,540
	Hour	16,482	2,047	14,435	11,773
	Minute	275	34	241	196
	Second	4.6	0.6	4.0	3.3
Deaths per:	Year	50,930,605	11,368,309	39,562,295	32,227,101
	Month	4,244,217	947,359	3,296,858	2,685,592
	Week	976,749	218,022	758,727	618,052
	Day	139,536	31,146	108,390	88,293
	Hour	5,814	1,298	4,516	3,679
	Minute	97	22	75	61
	Second	1.6	0.4	1.3	1.0
Natural increase per:	Year	93,455,668	6,563,775	86,891,893	70,900,050
	Month	7,787,972	546,981	7,240,991	5,908,337
	Week	1,792,296	125,880	1,666,415	1,359,723
	Day	256,043	17,983	238,060	194,247
	Hour	10,668	749	9,919	8,094
	Minute	178	12	165	135
	Second	3.0	0.2	2.8	2.2
Infant deaths per:	Year	10,490,406	286,264	10,204,142	9,343,374
	Month	874,200	23,855	850,345	778,615
	Week	201,185	5,490	195,695	179,188
	Day	28,741	784	27,957	25,598
	Hour	1,198	33	1,165	1,067
	Minute	20	1	19	18
	Second	0.33	0.01	0.32	0.30

Source. PRB's 1990 World Population Data Sheet.

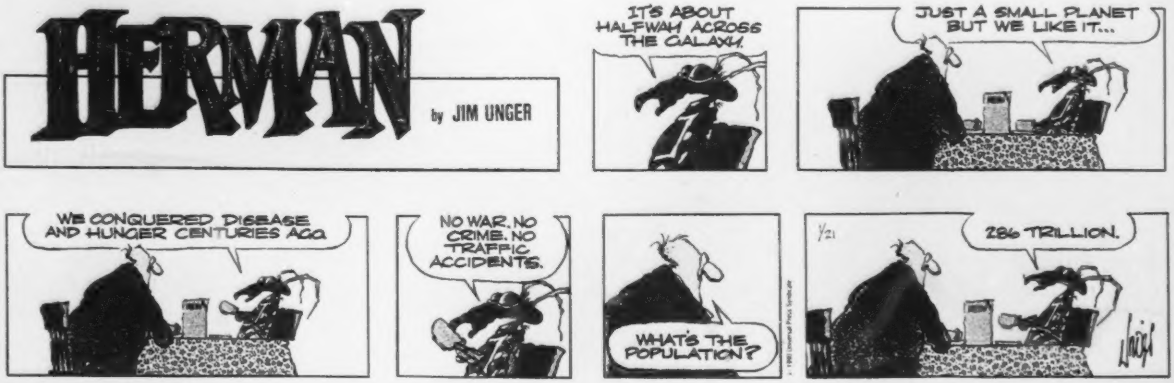
To the left is our annual population "clock," derived from the rates on PRB's *1990 World Population Data Sheet.* The pace of world population growth is at its fastest ever, an annual addition of 93 million a year. That amount exceeds the populations of the united Germany (80 million), which is in the news so often today. Every day, the world has a net gain of about 256,000 new residents, or a weekly amount somewhat larger than the population of Philadelphia.

Over 90 percent of world growth takes place in the less developed countries of Africa, Asia, and Latin America. The more developed countries account for only about 6.6 million increase each year and two-thirds of that is in the United States and the Soviet Union alone.

The number added is projected by the United Nations to rise to nearly 100 million a year by the end of the century. This projection, if correct, would represent the all-time peak of persons added. The downturn in numbers added will be very gradual so that, even 25 years after the turn of the century, the annual increment would still be 80 million.

–C.H.

ADDENDA


HERMAN
by JIM UNGER
IT'S ABOUT HALFWAY ACROSS THE GALAXY.
JUST A SMALL PLANET BUT WE LIKE IT...
WE CONQUERED DISEASE AND HUNGER CENTURIES AGO.
NO WAR. NO CRIME. NO TRAFFIC ACCIDENTS.
WHAT'S THE POPULATION?
1/21
286 TRILLION.

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CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 777 14th St., N.W., Washington, D.C. 20005

ONE EARTH, ONE FUTURE: Our Changing Global Environment, by Cheryl Simon Silver with Ruth S. DeFries for the National Academy of Sciences. Washington, D.C.: National Academy Press, 1990. 196 pages. $14.95 hardbound. ISBN 0-309-04141-4.

Sponsored by the National Research Council (NRC) and written for a general audience, this illustrated book draws from research reported at the NRC's 1989 Forum on Global Change and Our Common Future. On its own, it serves as a broad introduction to earth-systems science.

This science deals with the earth as a unified ecological system, concentrating on the ecological interactions between the land, sea, and air—and increasingly, the earth's human population. The more massive and industry-dependent that our population becomes, the greater the potential for environmental impact. Or, in the book's parlance, "Humans do not tread softly on the earth."

Some consequences of human activity have become particularly apparent in recent years: diminishing tropical rainforests, acid rain, and the prospect for global warming and rising sea levels. The impact of further population growth could be disastrous. Economic development, however, is one factor that should help to abate such growth, the study points out. But then the question arises: How can a sustainable environment coexist with such development?

The answer is that "painful choices" will have to be made "in how we exploit our resources, direct investments, develop technologies, and organize our institutions," say the authors of *One Earth, One Future*. "Such choices require political will" but they must be addressed. Although other issues may make acute demands on society's attention, global environmental change is already well advanced and "may well be the most pressing international issue of the coming century."

—Art Haupt

DATING, MATING, AND MARRIAGE, by Martin King Whyte. New York: Aldine de Gruyter, 1990. 340 pages. $44.95 hardbound; $24.95 paperback. ISBN 0202-304-159; 0202-304-167.

The broad aim of this book is to examine the mate selection process and draw implications for the state of marriage in the United States. Using data from a Detroit area survey, the author assesses the extent to which courtship and mate choice patterns have changed over the last several decades. He also examines a variety of established ideas that relate dating behavior and wedding characteristics to marital success. All the analyses are based on the retrospective reports of ever-married women age 18 to 75 living in the greater Detroit area.

Whyte finds that many aspects of dating, mate choice, and weddings have not changed significantly over the course of this century. In particular, there is little indication that couples are more casual about dating or more independent from the opinions of their parents regarding mate selection. Wedding celebrations appear to be as elaborate today as they were in previous decades, suggesting that the wedding ceremony continues to mark an important role transition for the bride and groom.

The results of the study also suggest that marital success depends less on sociodemographic characteristics and previous dating experiences than on the reported level of romantic love at the time of the wedding and the way that couples arrange their lives together.

Dating, Mating, and Marriage offers a rich description of courtship and marriage patterns and challenges established ideas about the tie between the two; there is plenty of food for thought in these pages. A shortcoming of the book, however, is its lack of a unifying theoretical framework. As a consequence, the author often strains to link his findings to his broad concern, "What is happening to American marriage?"

Nevertheless, readers interested in mate selection and marriage will find this book useful for its investigation of assumptions that are frequently promoted but rarely evaluated empirically.

—Ruth Berg

Books Received

CONTRACEPTION: A Guide to Birth Control Methods, by Vern L. Bullough and Bonnie Bullough. Buffalo, N.Y.: Prometheus Books, 1990. 177 pages. $13.95. ISBN 0-879-75589-x.

FRIENDS OR STRANGERS: The Impact of Immigrants on the U.S. Economy, by George J. Borjas. New York: Basic Books, 1990. 274 pages hardback. $22.95. ISBN 0-465-02567-6.

HEALTH RESEARCH: Essential Link to Equity in Development, by Commission on Health Research for Development. New York: Oxford University Press, 1990. 136 pages. $13.95 paper. ISBN 0-19-520838-2.

INTERNATIONAL HANDBOOK ON INTERNAL MIGRATION, by Charles B. Nam, William J. Serow, and David F. Sly. Westport, Conn.: Greenwood Press, 1990. 438 pages. $75.00 hardback. ISBN 0-313-25858-9.

THE 1990 DEVELOPMENT REPORT CARD FOR THE STATES, by the Corporation for Enterprise Development. Washington, D.C.: Corporation for Enterprise Development, 1990. 154 pages. $48.00 paper. ISBN 0-9605804-9-2.

POPULATION POLICY, CONTEMPORARY ISSUES, by Godfrey Roberts. New York: Praeger, 1990. 216 pages. $42.95. ISBN 0-275-93039-4.

WORLD TABLES, 1989-90, edited by the World Bank. Baltimore, Md.: Johns Hopkins University Press, 1990. 646 pages. $34.95. ISBN 0-8018-4086-4.

MEXICO

Population (1990): 85 million (est.)
Population Density: 106 people per square mile
Land Area: 761,600 square miles
Births per 1,000 population: 30
Deaths per 1,000 population: 6
Rate of Natural Increase: 2.4 percent
Total Fertility Rate: 3.8 children per woman
Infant Mortality Rate: 50 deaths per 1,000 live births
Life Expectancy: 68 years
GNP per capita (1988): $1,820
Capital: Mexico City

by Laurie Gill

UNITED STATES
MEXICO
GULF OF MEXICO
Mexico City
PACIFIC OCEAN
BELIZE
GUATEMALA
HOND.

Office of the Geographer, Department of State

Until half a century ago, Mexico was a country with relatively modest population size. In 1940, its population was less than 20 million, less than one-sixth that of its northern neighbor, the United States.

Since that time, the population has mushroomed to an estimated 85 million, according to Mexican population experts familiar with the 1990 Census tally and its adjustments. This growth was fueled by declining death rates and still-high fertility. The recently reported 1990 Census results put the country's population at a lower-than-expected level, results that are now thought to be reasonable estimates of Mexico's growth (see *PT*, October 1990). Mexico's population stands at about one-third that of the United States, making it the 11th most populous country in the world.

Mexico's total fertility rate has decreased from 4.7 average lifetime children per woman in 1984 to 3.8 in 1990. The crude birth rate has dropped to 30 births per 1,000 population. When this rate is coupled with Mexico's low death rate of 6 deaths per 1,000 population, the result is a still-robust growth rate of 2.4 percent.

Mexico's fertility decline can be attributed to economic development and increased knowledge and use of family planning. Since 1973, the government has endorsed family planning programs because it felt Mexico's fertility was too high. As a result, contraceptive prevalence among women in union of reproductive age has more than tripled–from 13 percent to 53 percent.

Despite these improvements, the momentum of population growth is outpacing the government's attempts to improve the Mexican economic situation. In the past decade, the country has run up an immense foreign debt of $100 billion, the result of falling oil prices in the 1980s and struggling economic growth.

Economic growth to create jobs remains one of the main challenges facing the government of President Carlos Salinas de Gotari. Each year over 1 million people enter the labor force, yet only 100,000 to 200,000 new jobs are created. This leaves roughly 800,000 people without full employment, forcing them to look for opportunities in the informal sector or in another country.

Because of the high levels of unemployment and underemployment, it is estimated that hundreds of thousands of Mexicans emigrate illegally to the United States in search of work each year. In addition, according to the U.S. Immigration and Naturalization Services, in 1988, 95,000 Mexicans were admitted into the United States legally. Mexicans who work in the United States remit some $6 billion to their country every year. This is equivalent to roughly 29 percent of Mexico's export earnings in 1988, a significant boost to the country's balance of payments.

In 1987, the Mexican government officially viewed the level of emigration as satisfactory even though Mexico loses an estimated 104,000 people annually as a result of net international migration. The Mexican government is instead concerned about the influx of refugees from troubled El Salvador and Guatemala. It is estimated that as of 1987, over 175,000 refugees in Mexico were seeking political asylum.

The United States and Mexico are negotiating a potentially historic free-trade agreement between the two countries. President Salinas favors broader ties with the United States because they offer hope for spurring the Mexican economy. Increased trade as well as increased assistance could give the Mexican economy what it needs to rebound and grow to accommodate its expanding population.

POPULATION TODAY

Vol. 18, No. 12 December 1990

FEATURES

3 Immigration reform sweeps Congress
More immigrants and a different mix

3 Final Census counts coming
The "final" numbers, to be placed on the President's desk December 31, may be just the beginning

4 PRB hosts Annual Dinner, honors Mauldin
Achieving world population goals will take work, says honoree

5 Congress battles over family planning funds
Senate "straw vote" shows "Mexico City" policy is vulnerable

6 Europe's demographic future
Strasbourg conference debates low birth rates and the role of immigrant labor

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National Archives

Docking at Ellis Island: More European immigrants in our future. (See page 3.)

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FROM THE EDITOR'S DESK

Believe it or not–and no one ever quite believes it–the end of another year is upon us. So too is the end of an era here at PRB: *PT* editor, Arthur Haupt, has left PRB after 14 years of service to venture forth as a freelance writer and editor.

Art first came to PRB in 1976 to serve as editorial assistant to *PT*'s predecessor *Intercom*. In 1983, he became *PT*'s first (and only) editor and provided a sharp wit, keen sense of humor, and prolific pen in developing *PT*'s style and content. Art faithfully covered PAA's annual meetings, kept up on the latest demographic software programs, instituted features such as Populandia, Take a Number, Addenda, and the Annual Index, and provided a fresh focus on demographic trends and events.

Although no one will ever quite "replace" Art here at PRB, we wish him well in his new ventures. Who knows–given Art's flair with words, we may someday see his name in the *New York Times* Book Review. And we can all say that we knew Art when.

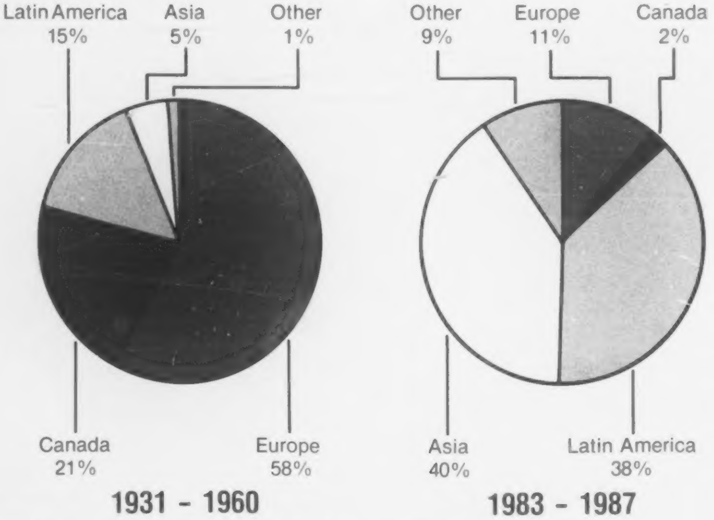
Good luck, Art.

Carol De Vita
Director of Publications

PRB bids farewell to editor Art Haupt

SPEAKING GRAPHICALLY

The Immigrant Pool: Back to the Future?



1931 - 1960

1983 - 1987

Immigrants admitted to the United States by region of birth

The new immigration bill would increase "diversity" of the immigrant pool by raising entry levels of "traditional source," mostly European, countries.

Source. America in the 21st Century: A Demographic Overview, Population Reference Bureau, 1990.

POPULATION TODAY

VOL. 18, NO. 12 **December 1990**

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	U.S.	Outside the U.S.
Individual	$45	$56
Educator*	30	38
Student*	25	28
Library/nonprofit organizations	55	68
Other organizations	200	250

* Educators and students should send supporting documentation

Recycled Paper

Immigration Reform Sweeps Congress

Congressional leaders have put the finishing touches on a new immigration bill that makes major changes to the structure of U.S. immigration. It is expected that the law will be signed by President Bush without further ado.

For the first time, the total amount of immigration will receive an overall limit of 700,000 a year (reduced to 675,000 starting fiscal year 1995). This compares with 497,789 immigrants admitted during fiscal year 1989, which ended on September 30, 1989. These limits are somewhat flexible, however, since the number of immediate relatives of U.S. citizens will be allowed to "pierce" the cap set on the family preference category.

The 700,000 figure (like the 497,789 figure for 1989) excludes refugees admitted under the Refugee Act of 1980.

In FY 1989, an additional 114,321 immigrants entered as refugees or asylees, Amerasians born in Vietnam, Cuban/Haitian entrants, and members of other special categories. The President has set the number allowed under the various refugee allotments at 131,000 in the current year and a like number can be expected for FY 1992 when the new law will take effect. So, the total number of legal immigrants that can be expected in FY 1992 is about 830,000 (compared to 612,110 in FY 1989, that is, 497,789 + 114,321).

U.S. immigration policy has always been generous to relatives of citizens and resident aliens and the new law follows that tradition, although by a rather circuitous route. The new law purports to limit this overall category, a departure from the previous law, which applied no ceilings at all on immediate relatives of U.S. citizens. The official total allowed in FY 1992 will be 465,000. Of these, 220,000 will be immediate relatives of citizens and 245,000 will be relatives of resident noncitizens ("family preference"). But the 465,000 limit *can* be exceeded.

If the number of immediate relatives of citizens rises above the allotted 220,000, visas will be shifted from the family preference category, but *only* down to a "floor" of 226,000. Once that floor is reached, no more visas can be shifted to the immediate relative of citizens category. But that does not mean that no more immediate relatives will be admitted.

At this point the cap of 465,000 is "pierced" and total immigration can actually rise above the 700,000 limit. How likely is this to actually happen? Apparently, not very likely since the 220,000 visas set aside for immediate relatives is based on recent experience and seems to be a good guess as to the future numbers.

Nonetheless, the drafters still hold that the immigration of immediate relatives has no limit. On to the other provisions.

Much of the balance of the immigrant slots are employment related, with 140,000 annually going to those with needed occupational skills, including 10,000 for "employment-generating investors." For three years starting in FY 1991, Hong Kong, a British crown colony that reverts to China in 1997, doubles its current visa allocation to 10,000 per year. An additional 36,000 visas over three years are reserved for managerial-level employees of U.S. firms and their families. After 1994, Hong Kong will receive a "full country quota."

A three-year "transitional diversity

Continued on page 10

Final Census Counts Coming

At the end of December, the final state counts from the 1990 Census will be placed on the President's desk. The numbers have had a perilous trip this time around. After an early flap over the rate of return of census forms, the fires were fanned again in late August when the preliminary counts were released to local governments and the media.

The early, incomplete count of a little under 246 million raised some questions since the total population has been estimated to be 250 million. News coverage played the discrepancy to the hilt. To be fair, most press stories did point out that the counts were preliminary, but that subtlety became lost in a chorus of "we wuz robbed" complaints. The public was left with the impression of a crippled census count.

What's actually happened so far, however, has been somewhat less sensational than that. The public returned 63 percent of the census forms while the bureau had budgeted funds for follow-up activities assuming a rate of 70 percent. That cost some extra money, but by the end of July all 100 million households on the list had been identified.

Then commenced a series of programs designed to corral those who had still been missed: the "Were You Counted" campaign, count reviews comparing tract level data to 1980, housing coverage checks, and local review. Local review is a cooperative process whereby the bureau and local governments continue to work together to verify counts, locate map errors, and determine the status of potential housing units still in question. During the late 1980s, the Census Bureau held hundreds of workshops around the country to instruct local governments in how to perform local reviews, check counts, and issue a documented challenge.

They must have learned well, for this process resulted in 7,600 challenges, 6,600 of them supported by some sort of documentation.

Unfortunately, the cooperative nature of the local review process frequently becomes lost in the concern that any undercount will mean somewhat fewer federal funds, particularly for large cities. Although there will certainly be more acrimonious times ahead, both the cities and the bureau will benefit from the continued improvement of the first-ever automated mapping system of the computer-based TIGER files. This remarkable tool has "geocoded" the entire nation–down

Continued on page 6

PRB Hosts Annual Dinner, Honors Mauldin

Amid the burnished oak-paneled walls and gleaming brass fittings of the National Press Club, the population community gathered to honor author and population expert Parker Mauldin at PRB's Annual Dinner, November 1.

PRB board chair Joe Fisher announced the election of Laura M. Olson as an honorary fellow, in recognition of her long service on the PRB Board of Directors. Tom Merrick, PRB president, announced that pioneering demographer and long-time PRB board member Conrad Taeuber and his wife Dorothy were moving to Nashua, New Hampshire, to be closer to family (an example of "reverse migration" into the Frost Belt?).

Charles F. Westoff, director of the Office of Population Research at Princeton University, presented to Parker Mauldin the PRB award for "outstanding contributions to increased understanding and awareness of population issues."

Throughout his career, Mauldin assisted developing countries in population activities, and made methodological advances in the evaluation of family planning programs. Currently, he is a consultant in the Population Sciences Division of the Rockefeller Foundation and a senior associate at the Population Council. He formerly worked for the Census Bureau, and consulted for the World Bank, the International Planned Parenthood Federation, and the U.N. Fund for Population Activities.

The median population projection of the U. N. puts this decade's increase in world population at almost 1 billion, or a fifth of the entire population of the world today, said Mauldin, but even this enormous figure might go much higher without a "large increase in funding and effort."

Just to maintain the current level of contraceptive use, Mauldin estimated, would require the recruitment of more than 100 million new users by the year 2000. To achieve the U.N.'s median projection, contraceptive prevalence in developing countries must increase from 51 to 59 percent, and the number of contraceptive users from 381 to 567 million.

Carl Haub

Charles Westoff presents PRB award to Parker Mauldin whiles Joe Fisher looks on.

Mauldin used contraceptive prevalence as a predictor of total fertility rates, a procedure that yields estimates to 85 percent accuracy, he said. In the 1960-1965 period, only 30 million married women of reproductive age used contraceptives. In the 1985-1990 period, the number had jumped to 381 million or 51 percent of all women, according to Mauldin.

To meet the worldwide population goal, he said, sub-Saharan Africa would have to "more than double" its rate of contraceptive use. South Asia is the region "where the largest increase must occur." Pakistan has "done the poorest," and might only achieve 10 percent contraceptive use by the year 2000. India is "moving slowly," but the success story is Bangladesh. There, half of all married women of reproductive age could be using contraceptives by 2000.

The Annual Dinner serves each year as PRB's institutional birthday party. The nonprofit research organization was founded 61 years ago, in 1929, by population specialist Guy Irving Burch.

–S.K.

SOFTWARE

Balance of the Planet is a rather intricate simulation for IBM compatibles or the Mac Plus that puts the fate of the world in the user's hands. It offers the environmentalist the vicarious opportunity to *do* something about environmental problems–even if only on a screen.Definitely not a game, more of a teaching tool, *Balance of the Planet* will most likely appeal to those who are already environmentally minded.

The program essentially consists of a series of formulas that compute the compensating effects of policy decisions. The trick lies in figuring out just how to balance the good effects of a "green" policy decision–eliminating CFC production, for example–with the bad–ceasing to produce goods that people need, such as refrigerators. Your score reflects how well you do and it isn't easy.

Color and graphics are rather minimal, but concepts abound. The 150 screens depicting environmental causes and effects will increase your environmental vocabulary with such terms as riparian habitats (shores and river banks) and fluidized bed combusters (NOT a new method of birth control, but a clean coal-burning technology).

As a demographer, however, I winced at the "Birth Rate" screen, which said that there are "millions" of births worldwide each day. Every week maybe, but not every day.

Balance of the Planet lists for $49.95 and requires a hard disk, color monitor (CGA and up), and 512K on an IBM compatible; the Mac Plus version requires 1 megabyte of RAM. Produced by Chris Crawford Games and adapted for IBM by Incredible Technologies, Inc. An under-the-tree surprise for that environmentalist on your list?

–C.H.

SURVEY REPORT

Turkey

Fertility rates have declined in Turkey, but many women would prefer even smaller families. These were some of the findings of the 1988 Turkish Population and Health Survey, conducted by the Hacettepe University Institute of Population Studies, with support from the U.S. Agency for International Development. Turkey has conducted censuses at five-year intervals since 1935 and national demographic surveys every five years since 1963.

The 1988 population and health survey collected information on 31,601 household members in 6,552 households: 5,257 ever-married women age 15-49 were interviewed for the women's questionnaire, and 2,264 husbands of these women were included in a men's survey.

Although marriage is nearly universal in Turkey, the 1988 survey gives some indication of a shift in attitudes toward marriage. The proportion of single women under age 25 has increased substantially (about 17 percent). The percentage of women who have never married by the end of their reproductive years has increased slightly. The average age at marriage has risen from 17.6 years in 1983 to 18.2 years in 1988 (although women in the rural areas and in the east marry earlier). Further analysis of the fertility rates reported in the survey indicate that women will have an average of 3.4 lifetime children, a decline from the 1983 rate of 4.1. Yet, the ideal is 2.1 children.

Knowledge of family planning methods is widespread in Turkey, although some methods are more widely recognized than others. While 94 percent of married women recognize the pill or IUD, only 76 percent know of the condom, and 65 percent know of female sterilization. Most husbands also recognize at least one modern method.

F. Iovino

Turkish women average 3.4 children, but their ideal is close to 2.

Sixty-three percent of married women are currently using a method of family planning–15 percent greater than in 1983. About equal proportions (about a third) of women use modern and traditional methods. The most widely used method (26 percent) is withdrawal. The IUD is the next most popular method (14 percent), followed by the condom (7 percent), and the pill (6 percent).

More than a third of the women who gave birth in the year before the survey say the birth was badly timed or not wanted. Twenty-four percent of ever-married women have had at least one induced abortion.

Health concerns, opposition of the husband and lack of knowledge are the main reasons given for non-use of contraception by women exposed to the risk of pregnancy, but who do not want to become pregnant.

Infant and child survival have improved in Turkey, although about 8 percent of children die before the age of one. Rates vary across the country. Less than half of the women giving birth in the five years before the survey had any prenatal care.

–B.C.S.

Congress Battles over Family Planning Funds

In addition to its tug-of-war with the Bush Administration over the deficit reduction bill this fall, Congress also carried on a sharp internal struggle over international family planning policies.

On October 28, the final day of its protracted session, Congress approved a $14.7 billion foreign operations bill for fiscal year 1991, with $250 million for population assistance (a $34 million increase from the previous year). The bill contained provisions designed to ensure that the U.S. Agency for International Development (AID) actually spends designated funds on family planning, and to protect AID's Office of Population.

The foreign aid bill earlier became a battleground over the so-called Mexico City policy, which denies U.S. funds to foreign, nongovernmental, family planning organizations that provide abortion-related services or information, even with their own private funds.

On October 12, population-funding proponents tried, but failed, to provide $15 million for the United Nation's Population Fund (UNFPA), which current policy has defunded.

Then, on October 19, the Senate hotly debated an amendment by Sen. Tim Wirth (D-CO), which would have extended the more liberal rules for funding foreign governments to nongovernment organizations, such as UNFPA.

Later, Wirth withdrew his amendment in the interests of finishing the entire appropriations process in the face of a threatened filibuster.

But before its withdrawal, the Senate registered what amounted to a straw vote on the Mexico City policy–the first since 1985. The vote was 57-41 "not to table"–that is, in support of–the Wirth amendment. Commented Wirth: "We will overturn the Mexico City policy next year."

–S.K.

Europe's Demographic Future

Alsace's picturesque capital, Strasbourg, was the setting for the Council of Europe's Seminar on Present Demographic Trends and Lifestyles. The purpose of the seminar was to focus the council's attention on the serious demographic issues facing contemporary Europe.

Some 200 European demographers and population specialists gathered September 18-20 to consider and make recommendations on the consequences of demographic changes and how to deal with them.

The chief issue, either directly or indirectly, was low fertility and its effects–eventual population decline and labor force shortages. In addition, north-south tensions also made an appearance when the conference considered the surplus labor force of many Mediterranean countries, particularly Turkey, a member state of the Council of Europe.

The conference's mood was rather upbeat considering the gravity of the issues under consideration. Low birth rates, it was observed, could be addressed by reducing the impact of childbearing upon family income and women's careers. The example of Sweden, which had made great strides in that area and has a rising birth rate, came up more than once. Sweden provides generous time off with pay for working women who give birth, and child care is easily available.

Does Europe need to import culturally diverse workers to fill labor force needs? The consensus seemed to be that other methods, such as retraining and robotics, could go a long way in obviating the need for such a policy.

Delayed family formation, cohabitation, and out-of-wedlock births were matters of major concern at the conference. Any decline in family values was viewed with some alarm and some participants expressed concern over the possible negative effects of group day care on young children.

Still, it was observed that most childbearing takes place in some form of union and a French delegate commented that, according to surveys, women in France want a larger family size than they currently have.

The seminar underscored an increasing interest in demography in Europe. Strasbourg's central location on the Rhine frontier seemed to emphasize the growing unity within Europe.

All heads turned whenever representatives from Eastern European countries spoke–the delegates from Poland had particularly gloomy economic news. The hope that those countries would all soon be members of the Council of Europe was often expressed.

All in all, this was an interesting conference that highlighted the tension between a unifying Europe and the wish of individual countries to maintain cultural identities.

–C.H.

Census Story

Continued from page 3

to the level of individual buildings--allowing instant updates of local geography. As local reviews uncover errors, these can be corrected in both the census map-generating database and in locally maintained files.

How large will the final count be? One estimate calls for adding 2 million people to the original figure, bringing the final tally to 248 million. Such a "miss" is not unprecedented–the 1980 Census was almost 5 million too high in comparison with pre-census estimates. Some reduction in the count might be expected due to increased efforts to reduce double-counting. But, no matter, the release of the final numbers later this month will almost certainly set off the controversy anew.

–C.H.

POPULATION UPDATE

Estimated United States Population:

As of August 1, 1990	251,641,000
As of August 1, 1989	248,003,000

The above estimates, the latest available, include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 1065. The estimates do not yet incorporate the preliminary results of the 1990 Census.

Estimated World Population:

As of December 1990	5,360,000,000
Annual growth	93,000,000

Extrapolation from the mid-1990 population on PRB's *1990 World Population Data Sheet*.

Latest Provisional Statistics for the U.S.: June 1990

	12 months ending with June					
	Number		Rate			
Item	1990	1989	1990	1989	1988	1987
Live births	4,131,000	3,957,000	16.6	16.0	15.8	15.5
Deaths	2,170,000	2,149,000	8.7	8.7	8.9	8.7
Natural increase	1,961,000	1,808,000	7.9	7.3	6.9	6.8
Marriages	2,405,000	2,398,000	9.6	9.7	9.7	10.1
Divorces	1,172,000	1,183,000	4.7	4.8	4.8	4.8
Infant deaths	38,700	38,900	9.4	9.9	10.0	10.1
Population base (in millions)	. . .	. . .	249.6	247.1	244.5	242.2

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.
Source. Monthly Vital Statistics Report (Vol. 39, No. 6) from the National Center for Health Statistics.

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TAKE A NUMBER

China Headcount: China has announced its official 1990 census count after a brief delay and a flurry of speculation when rumors circulated that the count was a huge 1.4 billion. The official number is a more reasonable 1,113,682,501 for July 1, 1990. The figure is about 13 million higher than the precensal estimate. Some numbers published elsewhere may be a little higher, since China often adds Taiwan and Hong Kong. Other figures from the New China News Agency and quoted in the *New York Times:* The ethnic majority Han Chinese totals 92 percent of the country's population. Growth rates vary sharply for ethnic minorities—as high as 3.6 percent annually for Tibetans and Mongols, while the national growth rate is 1.47 percent a year. This rate indicates that China adds over 16 million people annually despite a very modest growth rate for a developing country.

—C.H.

ADDENDA

Zip Codes of the Rich and Famous

The zip code of a wealthy residential area has long spoken volumes to demographically minded marketers. The mere recitation of five-digit number strings such as 07078 (Short Hills, N.J.), 48013 (Bloomfield Hills, Mich.), and 20817 (Bethesda, Md.) can make the publisher of an upscale shop-at-home catalog salivate. Starting out in 1963 to help automate mail sorting, the zip code has now become shorthand for income level, real estate values, education level, life-style, and racial/ethnic composition.

Now, zip code consciousness has arrived in the world of the TV sitcom. Fox Communications recently launched a one-hour dramatic comedy: "Beverly Hills, 90210." The show portrays the problems of teenage twins, Brenda and Brandon Walsh, who just moved from middle America (Minneapolis), as they struggle to cope with life-styles in this rarified zip.

According to Donnelley Marketing Information Services, other top zip codes for household income include: 19025 (Fort Washington, Pa.), 94027 (Menlo Park, Calif.), 48010 and 48025 (Birmingham, Mich.), 90077 (Los Angeles, Calif.), 60022 (Glencoe, Ill.), 10514 (Chappaqua, N.Y.), and 06897 (Stamford, Ct.).

—S.K.

E.J. Camp

The Walshes: Can they live up to their zip code?

Immigration

Continued from page 3

program" reserves 40,000 visas a year for persons with U.S. job offers who hail from 36 countries that were "adversely affected" by the 1965 changes in immigration law. Forty percent of these go to Ireland; other countries that gain include Poland, Italy, Tunisia, and Egypt.

Finally, the total is brought to 700,000 by providing for 55,000 visas for the backlog of spouses and minor children of recently legalized undocumented aliens.

Changes in FY 1995

All of this will be in force until FY 1995 when the provisions will change a bit. Then, the overall ceiling will drop to 675,000, the 55,000 backlog allotment will be phased out, and total family preference visas will rise from 465,000 to 480,000. Occupational preference visas will be combined with 55,000 "permanent diversity" visas (allocated among countries from which immigration was lower than 50,000 over the preceding five years). These form an independent group of 195,000 immigrants for employment purposes.

Other provisions shift the responsibility from Congress to the administration on the decision whether or not to admit immigrants with AIDS, provide citizenship to certain Filipine war veterans, make it a crime to import someone to work as a longshoreman, and change categories and ceilings for some "non-immigrants," such as entertainers and religious workers.

What will be the effect of the new law? It certainly will increase immigration. The current law resulted in 612,110 immigrants and refugees in FY 1989. The new law will allow for 700,000 immigrants plus the 130,000 refugees authorized by the President for the current year.

The Senate Subcommittee on Immigration and Refugee Affairs notes that the law's "advantages" are a 35 percent increase in immigration on a permanent basis, no restriction on immediate relatives of citizens despite the new imposition of an overall ceiling, and a 300 percent increase in the number of skill-based immigrants.

—C.H.

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 777 14th St., N.W., Washington, D.C. 20005.

FEAR OF FALLING: THE INNER LIFE OF THE MIDDLE CLASS, by Barbara Ehrenreich. New York: Harper Perennial, 1989. 292 pages. $9.95 paperback. ISBN 0-06-097333-1.

In this provocative book, social commentator Barbara Ehrenreich examines changes from 1950 to the present in the attitudes, values, and self-definition of the American middle class. She defines the middle class as the educated, white- collar, professional, middle- and upper-middle-income segment of society—which she sees as the sector that shapes American thought and sets the public agenda.

Following the affluence and flowering consumerism of the 1950s, the middle class discerned that not everyone shared equally in the "American dream." Middle-class liberals took their cue from the young President Kennedy and influential books such as Michael Harrington's *The Other America*—a spirit institutionalized in the programs of the Great Society.

At the same time, middle-class youth began their rebellion, apparently eschewing the paths of careerism and complacency that the "establishment" required. Middle-class liberals then rediscovered a new group that embodied the former middle-class virtues of hard work and self-discipline: the working class.

However, it was the "New Right" conservatives, not the middle-class liberals, who allied themselves with the working class. Conservatives cast themselves as champions of the working man's cause and his traditional "family" values. They portrayed liberals as out-of-touch academics with big-ticket social programs designed to benefit the indolent poor. Conservatives capitalized on working-class discontent, even though the conservative agenda was avowedly pro-management, big business, and anti-labor.

Today, says Ehrenreich, as the economic climate worsens and more working-class people slip into the ranks of the poor, the voice of the liberal middle class is weak and fragmented. The middle class sees itself economically threatened and, without apology, behaves as an elite. Politically, it seeks to protect its privilege, voting by pocket-book rather than conscience.

For this author, the challenge for the middle class now is to reach again beyond its borders, and work toward a more egalitarian society. Seen in the light of this fall's agonizing federal budget debates, Ehrenreich's message takes on a particular urgency.

—Alex de Sherbinin

REPRODUCTION AND SOCIAL ORGANIZATION IN SUB-SAHARAN AFRICA, edited by Ron J. Lesthaeghe. University of California Press: Berkeley and Los Angeles, 1989. 556 pages. $65. ISBN 0-520-06363-5.

The 11 papers in this demographically sophisticated volume explore connections between characteristics of reproduction in sub-Saharan Africa and patterns of social organization in the region.

The papers link the work of anthropologists and demographers seeking to explain reproductive change in Africa. The book seeks to avoid what editor Lesthaeghe calls the "messy bag" treatment of culture too common in the field. "It is very easy to introduce a nominal variable denoting ethnic group or language in any multivariate analysis and to assess its statistical significance and impact on dependent variables. It is quite a different matter to explain on substantive grounds what such statistical results really mean. What is lacking is a much more precise specification of these 'cultural proxies.' "

Instead, the papers connect ethnicity to characteristics of social organization, such as the prevailing modes of kinship structure, division of labor, gender roles, and the structural changes in social organization introduced by non-African religions.

The authors examine such issues as whether a socioeconomic development threshold can explain slow fertility change, whether "universal and early" accurately describes African marriage patterns, and the role of polygyny in maintaining high fertility rates.

Readers will find a wealth of detail on data sources (with critiques of that data's quality), a richness of ethnographic information, thorough demographic analysis, and a consistency of argument.

The papers call into question a number of the standard assumptions made about population dynamics in sub-Saharan Africa: for example, the notion that failure to have children must always be a grave social stigma for women. Instead, sterile women often find niches in polygynous households. And the fairly common practices of child-fostering and "communal" child-rearing can reduce the cost of childbearing for individual mothers, a practice that may slow the adoption of a small-family norm.

The book concludes with a policy discussion stressing that reproductive change *is* occurring in Africa; change is slow for a variety of cultural reasons, but there are ways to design population programs that use local institutions and grassroots approaches to enhance change.

—Nancy Yinger

SPOTLIGHT

UNITED STATES

(Part 1 of 2)

Population (1990 est.): 251,641,000
Population Density: 71.1 persons/sq. mi. (27.4 persons/sq. km.)
Land Area: 3,539,289 sq. mi. (9,166,759 sq. km.)
Births per 1,000 Population: 16.6
Deaths per 1,000 Population: 8.7
Rate of Natural Increase: 0.79%
Total Fertility Rate: 1.99
Infant Mortality Rate: 9.4 per 1,000 live births
Life Expectancy at Birth: 74.9
GNP per Capita (1988): $19,780
Capital: Washington, D.C.

by Kelvin Pollard

Demographically and economically, the United States is clearly among the world's more developed countries (MDCs)–with low fertility, low mortality, an aging population, and a high standard of living. Yet MDCs are not all alike. The United States differs from Canada, Japan, and countries of Western Europe in many ways.

In this spotlight we will examine some traits that make the United States unique. Part 2, in the next issue of PT, will focus on some striking contrasts within our own borders.

On geography alone, the United States stands out among industrialized nations. This transcontinental land mass lying between Canada and Mexico covers 3.5 million square miles, making it the world's fourth largest country. Partly because of its large size, the United States is more sparsely populated than most other MDCs. It has 71 persons per square mile, while population densities of over 300 per square mile are common among European nations. Its vastness has contributed to its abundance in many agricultural and mineral resources. Yet like much of Europe and Japan, the United States does not produce enough energy to meet consumer demand. Energy production in 1986, for example, was 88 percent of consumption. Moreover, the United States, despite its diversified economy, is a net importer of goods and commodities, while many other MDCs are net exporters.

Until the end of World War II, the United States was virtually alone among MDCs in terms of its racial diversity. And, even though postwar immigration from Asia and Africa has made much of Western Europe more heterogeneous, the United States today remains even more so. For example, less than 3 percent of the United Kingdom's population is of non-European origin, while blacks, Hispanics, Asians, and Native Americans compose 24 percent of the U.S. population.

On certain fertility and mortality measures, the United States is quite different from many other MDCs. Its rate of natural increase, at 0.79 percent, is at least double those of Japan, Spain, the United Kingdom, and Germany. The U.S. total fertility rate (or–number of lifetime births per woman) has now reached 2.0, which is close to replacement level, but still considerably higher than most other industrialized nations. Infant mortality in the United States is among the highest in the developed world (although it is very low by world standards). The U.S. rate is twice that of Japan's, 67 percent higher than Sweden's, and 33 percent higher than Canada's.

The United States stands out in other ways as well. While nearly three in four Americans live in urban areas, Americans apparently feel ambivalent toward large cities, as indicated by the rapid suburbanization that followed World War II.

The government plays a more restricted role in the United States than in most other MDCs. U.S. tax receipts, at 30 percent of the nation's gross domestic product, are significantly lower than those in Switzerland, Canada, Britain, Germany, Ireland, France, the Netherlands, or Sweden. Citizens of those countries, however, receive comparatively more government services, such as child care and general health benefits. In the United States, many social services are provided by a mix of commercial, government, and nonprofit entities–a system that sometimes leaves holes in the social safety net.

Unlike many other MDCs, the U.S. capital is not its largest city. The same is true for 35 of the 50 state capitals.

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POPULATION TODAY

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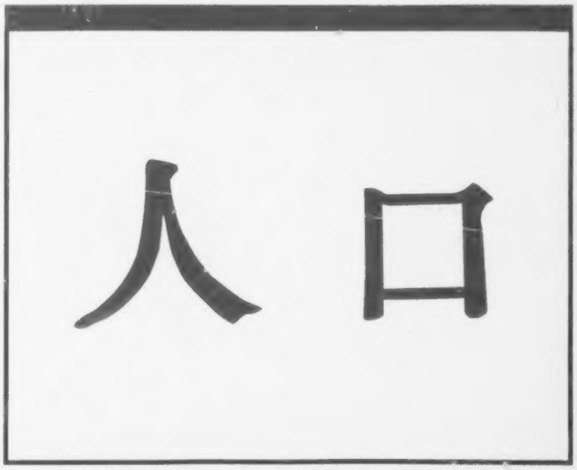

Chinese character "ren kou," captures the essence of the term "population": a stick figure (person) plus a hollow square (mouth)–or people needing to be fed. (See page 3.)

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FROM THE EDITOR'S DESK

Now that the information age has dawned, marketers have to worry about how to sell the stuff. Copywriters are cautioned to "sell the sizzle, not the steak." But where is the sizzle of the demographic t-bone?

Some information marketers have found their slant. They are ascribing to demographic data a sheer brute strength and super-hero-like power that men, women, and even wet-behind-the-ears students need to compete in the information age. For example:

"*Infuse* your business marketing proposals with population trend forecasts to the year 2000. *Unleash* precise crime, ethnic and age distribution statistics on all your business proposals or school reports... Imagine quickly seeing population trends, real estate growth, and age distribution breakdowns... And, *imagine having the same kind of awesome demographic power* as big Fortune 500 company research departments. [From an 8-page, glossy, full-color promo for Almanac USA, DAK Industries, italics added.]

Is your pulse elevated yet?

And, if the crush of hard data gets a bit overwhelming at times, there is relief for those with math anxiety. A newsletter that features demographic and marketing information on Europe hypes old-fashioned insight, offering:

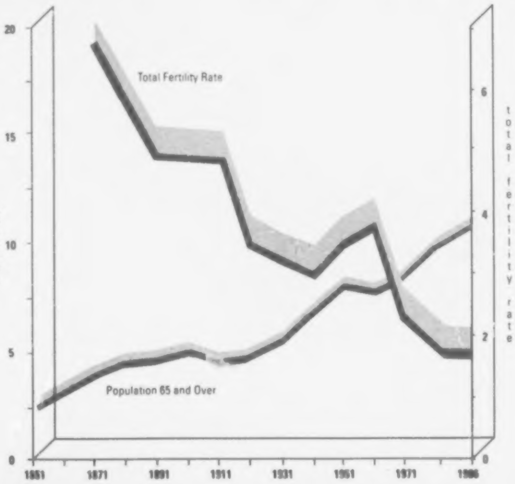
"Trends and implications to help you fight your way through the research and data jungles."

Yep. Hype-wise, it's a jungle out there.

–Susan Kalish

SPEAKING GRAPHICALLY

Long-term Decline in Fertility Rates Cause Populations to Age: Canada, 1851-1986



The Canadian population is aging, but not just because the post-World War II baby boomers are growing older. Indeed, the crest of that wave, those born in 1959, will not reach age 65 until the year 2026. This aging is rather a long-term trend caused by the long-term historical decline in fertility. The baby boom has merely delayed the onset of the full effect of this decline.

Source. Charting Canada's Future: A Report of the Demographic Review, Ministry of National Health and Welfare, Ottawa, Canada, see page 8.

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World's Largest Head Count Ever

1,133,682,501. That's the tally in the largest census ever taken. China has recently reported the results of its July 1990 enumeration, and the total figure is somewhat higher than previous estimates. A second, higher figure is given for the mainland plus Taiwan, Quemoy, and Matsu (20,204,810) and Hong Kong and Macao (6,130,000): 1,160,017,381.

China's population consists primarily of the Han nationality. The Han numbered 1,042,482,187, 92 percent of the total, up 10.8 percent from the 1982 Census. Although minority groups account for only 8 percent of the country, their total of 91,200,314 would make them the 11th largest country in the world, just behind Pakistan and ahead of Mexico! China's 55 ethnic minority groups are mostly concentrated in less populated areas of the country, some of them border areas like Inner Mongolia to the north, Xinjiang and Tibet to the west, and Yunnan to the south.

Involvement of the minorities in China's aggressive family planning program has been more gradual than the Han majority, but their much larger increase of 35.6 percent since 1982 may change that. Some of the increase in the minorities is probably due to a more receptive climate to report oneself as a minority member, according to Judith Bannister of the Census Bureau. The implied growth rate of 3.4 percent for minorities from 1982 to 1990 is too high to have resulted simply from natural increase (births minus deaths). In China, simple self-identification in an ethnic group is not enough; some form of proof of ancestry is required.

In the 12 months before the census, there were 23.5 million births in China and 7.0 million deaths. This results in a crude birth rate of 21.0 per 1,000 population and a crude death rate of 6.3. The official annual growth rate, at just under 1.5 percent, is higher than hoped for under China's avowed plan not to exceed a population of 1.2 billion in 2000. But, even though that goal will likely not be realized, consider what China's population might be if the growth rate had not declined.

Jill Merrick

Included in the head count.

In the late 1960s, China was growing at about 2.6 percent per year and Chinese women averaged about six children each during their lifetimes. If that situation had remained unchanged, China's 1990 Census would have been 1.4 billion, not 1.1 and the prognosis for 2000 would be 1.8 billion. Thus, China's census is a landmark event in several ways: for the largest-ever head count and for the head count that might have been.

The largest of China's 27 provinces and autonomous regions is Sichuan, with a population of 107,218,173. Henan, with 85,509,535, and Shandong, with 84,392,827 are in second and third place, respectively. The autonomous region of Tibet has the smallest number, with 2,196,010.

The percentage of the population classified as "urban" in China's latest census is 26.2 percent, settling an issue that had given statisticians fits for many years. During the 1980s, the official figure for the percent urban in China rose very rapidly, primarily due to the reclassification of population for administrative reasons. The percent urban in the 1982 census was 20.6 percent, but it proceeded to rise rapidly after 1982, even passing the 50 percent mark. Although the definition used in the 1990 census is not exactly like that of 1982, it is considerably closer and gives a more reasonable picture of urbanization. The 1990 definition of urban classifies village-level communes as rural, where post-1982 figures probably included them as urban in many cases.

Other new data released show Beijing's population at 10,819,401 plus 3,456,982 in adjacent areas. Shanghai, China's largest city, now stands at 13,341,896 with 5,127,460 in its nearby counties.

Based on a postcensus check, the overall quality of the job done by the 7 million enumerators was deemed to be quite high. State Statistics Bureau director Zhang Sai said that the measured net error rate was 0.6 per 1,000 people, a very low "undercount." This estimate is based on reinterviews with a sample of 173,409 persons in accordance with the Rules Governing the Sampling of the Census Findings. The figures released thus far are based on an early hand tabulation of the results with much more detail coming after the census has been fully processed by computer. There is also some good news for non-Chinese analysts in that plans call for dual Chinese-English text in the 1990 census publications.

Much of the demographic value of China's census awaits the release of the country's age distribution, probably by spring 1991. China now has two modern censuses with openly published data. This gives demographers a real opportunity to analyze shifts in fertility and mortality over the years and to check the accuracy of reporting. When it comes to population data, two censuses newly available from a country as large as China is the demographer's version of what astronomers had hoped for from the Hubble space telescope.

–C.H.

From Abortion to Contraception: Tbilisi, 1990

Under the theme "From Abortion to Contraception: Public Health Approaches to Reducing Unwanted Pregnancy and Abortion through Improved Family Planning Services," 220 experts and participants from 27 mostly European countries and international organizations shared experiences this October in Tbilisi, Georgia, USSR. The meeting centered on how to facilitate access to modern contraceptives so that women have choices other than abortion to regulate their fertility.

The United Nations Population Fund (UNFPA) convened the meeting in association with the World Health Organization European Regional Office (WHO/EURO), the International Planned Parenthood Federation/Europe, and the Zhordania Institute of Human Reproduction, Tbilisi.

In her keynote address, Dr. Nafis Sadik, executive director of UNFPA, called reproductive freedom "the freedom from which all others flow." While abortion is not considered a method of family planning, UNFPA joined with WHO and the other sponsors in recognizing that unwanted pregnancy and unsafe abortion constitute major public health and social issues. The Tbilisi theme, predicted Dr. Halfdan Mahler, secretary general of the International Planned Parenthood Federation worldwide, "would dominate the 1990s." Dr. Jo Asvall, regional director of WHO/EURO, spoke of "desperate women, troubled health professionals, and scared politicians."

Nowhere was the abortion problem more apparent than in the Soviet Union. Dr. Archil Khomassuridze, director of the Zhordania Institute (the WHO Collaborating Center in Human Reproduction in the USSR), confirmed that his country has Europe's highest abortion rate and one of the lowest contraceptive prevalence rates. Vast regional differences exist. More than 6 million legal abortions were officially recorded in 1988 in the Soviet Union, and another 6 million may have been performed illegally. Under *glasnost,* data that were previously held confidential have become public, and *perestroika* is facilitating improved access to modern contraceptives for the more than 70 million women of reproductive age.

Sovfoto

Moscow mother: Will she have options other than abortion to limit family size?

Another report described the dramatic decline in maternal mortality in Romania following re-legalization of abortion, from 162 per 100,000 live births in 1988 to about 50 in the first half of 1990. Dr. Etienne Baulieu of the *Université de Paris-Sud* reported that more than 60,000 French women have now used a combination of RU 486 and prostaglandin without a single fatality and few side effects. The usefulness of simple, safe, and inexpensive menstrual regulation (MR) procedures was also noted by several speakers. Neither RU486 nor MR is yet readily available for early pregnancy termination. Much suffering and unnecessary death could be avoided if they were.

Tbilisi Declaration

Of major international importance was the Tbilisi Declaration, approved by participants at the closing plenary session. It affirms the basic human right to decide freely, responsibly, and without coercion on the number and spacing of children; the right to reproductive health, choice, and dignity, particularly women's right to self-determination in their sexual and reproductive lives; and the right of every child to be a wanted child.

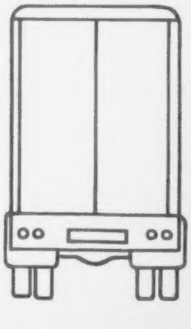
The declaration further recognizes unwanted pregnancy and unsafe abortion as major public health and social problems. It notes that criminalization of abortion has little impact on incidence while greatly increasing women's resort to unsafe abortion with its associated threats to health and well-being. The declaration cautions that even with the best family planning programs there will always be a need for safe abortion.

—Henry P. David

Henry P. David is Director of the Transnational Family Research Institute in Bethesda, Maryland.

The rapporteur's report of the Tbilisi meeting will be published as a supplement to *Entre Nous,* available without cost from SFP/WHO European Regional Office, Scherfigsvej 8, DK-2100 Copenhagen, Denmark.

PRB Has Moved



The books are back on the shelves, the PCs are plugged in, and at least some of the pictures and maps have found their places on new walls. The Population Reference Bureau has completed its move to new offices. The address for PRB and Decision Demographics is as follows:

1875 Connecticut Avenue, N.W., Suite 520,
Washington, D.C. 20009-5728.

The new phone numbers are 202-483-1100 for PRB and 202-462-9400 for Decision Demographics. The fax number for both offices is 202-328-3937.

Ethiopia: Fertility Up in Early 1980s

Fertility in Ethiopia rose in the early 1980s, according to a recent study by Habtemariam Tesfaghiorghis of the Australian National University.

The study was based on the 1980-1981 Ethiopian Demographic Survey and the 1964-1967 and 1968-1971 National Sample Surveys (conducted by the Central Statistical Office of Ethiopia).

Like many other eastern and central African countries, demographic data from Ethiopia, especially on fertility levels, has been limited and unreliable. Neither the 1970s World Fertility Surveys nor the 1980s Demographic and Health Surveys included Ethiopia. The Ethiopian 1984 Population Census provided some fertility analysis, but only in detail for the capital, Addis Ababa.

Data Defects

There are some evident defects in the survey data, the author reports. For example, a few younger women (age 15-19) were recorded as having more than 10 children, while some older women reported 30 children and more.

The author attributed these unacceptable numbers to errors in coding procedure: for example, if a single digit is placed in the 10s column, four children (properly coded as "04") becomes "40" children. Further, in the Ethiopian cultural context, women sometimes consider their grandchildren as their children and report them that way. Also, women frequently omit children who have died. The author used indirect methods (Brass and Arriaga) to estimate levels of fertility, and found that, despite these difficulties, the quality of the survey data was fairly good.

Many northern and southern African countries followed a pattern of low fertility in the 1940s, followed by high fertility in the 1960s, and then fertility declines in the 1980s. In Ethiopia, however, this transition lagged: relatively low levels of fertility into the 1960s were followed by a dramatic rise in the early 1980s.

Continued on page 10

SURVEY REPORT

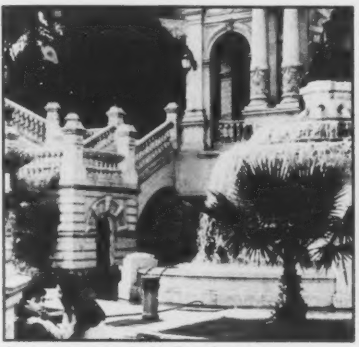
Chile

In 1988 a team of researchers from the Department of Public Health at the University of Chile interviewed some 1,600 young adults in the Santiago metropolitan area on all aspects of their sexual experience and reproductive behavior. The results of that survey were recently released in a report entitled *Survey of Reproductive Health among Young Adults.*

In the mid-1980s, when planning for the survey began, there was great concern for the apparently stalled fertility decline among the population aged 15-19. Age-specific rates for all other groups had declined by as much as 24 to 29 percent in the previous decades, but births among teens remained around 65 per 1,000, having declined only 7 percent since 1969.

The 1988 survey shows that declines in teen fertility continue to be slow: the national age-specific rate is now about 59 births per 1,000, although in Santiago the rate is closer to 35 per 1,000. Still, the national rate is not much higher than that of the United States (53 per 1,000 in 1980), and it is significantly lower than the rates in most other Latin American countries (94 in neighboring Bolivia, 139 in Guatemala, and 84 in Mexico).

Sixty-two percent of births to adolescents were conceived outside of marriage, but the majority of young mothers get married while still pregnant, so only 21 percent are still single at the time of birth. Surprisingly, roughly half of premaritally conceived babies were planned, indicating that it is relatively common for pregnancies to "seal" a marriage.


Alex de Sherbinin

A young couple in Santiago.

Of adolescents who received some formal sex education, 52 percent of the females and 36 percent of the males were taught by a family member—most often the mother. Only 5 percent of males and females were taught by a teacher or health professional, and less than 1 percent by a priest or within the church.

Premarital sex is fairly common. By age 23, 66 percent of females and 90 percent of males declared that they had engaged in premarital sex.

Though only a fourth of teens with some formal sex education actually used contraceptives during their first sexual encounter, this rate was twice that of those without sex education. Of unmarried adolescents who had had sex within four weeks prior to the survey, over 60 percent had used some form of contraceptive. The pill was the most popular method, followed by the rhythm method, the IUD, and condoms.

Most of the surveyed teens showed some understanding of how AIDS is contracted, and 80 percent knew that one could have the AIDS virus without showing any symptoms. However, just 65 percent of respondents recognized that use of condoms could reduce the risk of infection.

—A. de S.

DEMOGRAPHER'S PAGE

The New Census of China

by H. Yuan Tien

The initial figures released on the Fourth National Census of the People's Republic of China report on a myriad of demographic facts (see Table 1). Although subject to later computer verification, these figures tell us much about the effectiveness of China's current population policies, priorities for the future, and the accuracy of past estimates.

China's policymakers, population-planning officials, and demographers are primarily concerned about three population-related issues:

1) population size, growth, and control;
2) education and illiteracy; and
3) surging urbanization.

These issues are of central importance in China's plans to develop and modernize the country.

It is no accident, therefore, that the initial census release included this particular batch of figures. Behind the sex ratio and the proportion of minority nationalities in the total population, for instance, lie the two leading questions in China's population planning policies of recent years: 1) has the implementation of such measures as the "one child per couple" led to female infanticide and hence distorted the sex ratio? and 2) should the country's 56 minority nationalities continue to be exempt from the nation's comprehensive measures for curbing fertility?

The census apparently answers both questions in the negative. There is no evidence that population planning measures have had a negative impact on the sex ratio (106.6 males per 100 females in 1990, versus 106.3 in 1982). Figures showing that the rate of growth for minority nationalities has been 3.5 times greater than for the Han majority may pave the way for China's including minorities in its population planning efforts.[1]

Table 1. Principal Population Figures of China 1990 and 1982 Censuses

	1990	1982
Total population	1,133,682,501	1,008,175,288
Sex ratio (M/100 F)	106.6	106.3
Persons per household	3.96	4.41
Nationalities		
Han	1,042,482,187	940,880,121
Minorities	91,200,314	67,295,167
Educational attainment (per 100,000 population)		
University	1,422	615
Middle school	8,039	6,779
Jr. middle school	23,344	17,892
Elementary	37,057	35,237
Illiteracy and semi-illiteracy		
Age 15 and older	180,030,060	229,964,474
% of total population	15.9	22.8
Urban population	296,512,111	206,588,582
% of total population	26.2	20.6

Source. China's Fourth National Census, Release No. 1, 1990.

The figures on educational attainment and illiteracy are indicators of the extent of development and modernization to date, as well as of skill levels essential to future modernization. China has come a long way, but the road ahead is long.

China's demographic measures stabilized during the 1980s in an unexpected and perplexing way. The 1980s saw sharp shifts in policy (the "one child" campaign), yet, both the crude death and birth rates have remained stable, hovering about 8 and 21-22 per thousand, respectively, throughout the period. The annual rate of natural increase has remained about 1.5-1.6 percent, and the total fertility rate has been steady at around 2.5 for the country as a whole.

The relative stability in those vital rates suggest that China's demographic transition has completed its first phase. No major reductions in fertility are likely to occur without additional progress in development and modernization. Under the present socioeconomic conditions, in other words, the national effort to slow population growth evidently has reached its limits.[2]

Additional population growth is certain to occur, because the large cohorts of men and women born during the 1960s have reached their reproductive years. Amid this continuing but "stable" growth, the redistribution of China's population will receive more attention in the coming decade.

Urbanization

Urbanization is a sometimes overlooked measure of development and modernization. Urbanization in China started to rise following the de-collectivization of agriculture and economic deregulation in the late 1970s. Its pace will accelerate in the 1990s. As the new census shows, in only eight years, no fewer than 90 million more people became urban residents. Despite the problems of urban definition discussed in the accompanying article (page 3), urbanization looms as the central issue in China's demographic transition. Population gains in China's two biggest cities demonstrate this. Beijing's population jumped 17.2 percent, and Shanghai's 12.5 percent between 1982 and 1990. During the same period, the rate of natural increase was 7.9 per 1,000 in Beijing and 5.0 per 1,000 in Shanghai. The just-released urban figures underscore a rising concern among Chinese policymakers about the many uncertainties involved in the surging cityward migration from the countryside.

The returns of the Fourth National Census, once they ultimately withstand tests of accuracy, should serve to erase several uncertainties about China's immediate past. The few figures released

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to date, in fact, make it necessary to adjust almost all population and vital statistics that have appeared in various official yearbooks since 1982.

The officially authorized statistics in the first three columns of Table 2 show some internal inconsistency: if one applies the reported vital rates (columns 2 and 3) to the year end population totals (column 1), the estimated population totals (column 4) do not match the reported totals. The differences are irregular in direction. In light of the 1990 Census, the year-end population totals during the intercensal period clearly understated China's population size. At the end of 1989, for instance, the official population total was 1.112 billion, and the total estimated from the vital rates given for the year should yield a total population of 1.128 billion at the end of 1990. The 1990 census total of 1.134 billion as of July 1 exceeds both by large margins. The overall increase in population during the eight years between the two censuses was 12.5 percent, or an average annual rate of about 1.6 percent.

It is difficult to account for the difference of more than 21.7 million within six months between the end of 1989 and the July 1 census, unless the intercensal population totals were based on flawed vital statistics. The number of births reported by local population planning personnel (see column 5) shows the probability of this interpretation. Under-reporting of births in official statistics is clearly prevalent. Even though the National Family Planning Commission has given much higher numbers for some of the recent years, the figures of 22-23 million births a year for 1987-1989 may still understate, at least somewhat, fertility rates.[3]

At this level of reproduction, and in view of the almost constant crude death rate of 6.6 per year, the total estimated population at the end of 1990 would still have been lower than the census total of 1.134 billion six months earlier. Data published between 1982 and 1990, therefore, require extensive adjustment to render them consistent with one another. This revision must await the release of age-specific census data.

Policy Directions

What is likely to be the country's population at the century's end? For nearly a decade, the aim of China's population planning effort has been to hold the population size to first, "within" and then "around," 1.2 billion in the year 2000. Even before the census, China's fertility created doubt about whether this goal was actually attainable and caused debate about the seemingly innocuous shift to the new language of "around" 1.2 billion. Unless sharply different events transpire, the census returns reinforce the view that, at the now-prevailing yearly growth rate of 1.6 percent, China is highly likely to see a population of close to 1.35 billion in the year 2000.[4] The number of couples entering the reproductive age, as noted earlier, will peak between now and 1995 on account of the high fertility of the mid-1960s. This larger-than-hoped-for population total can be expected even if China's population planning effort continues to be as effective in the 1990s.

The new census figures may be used to buttress the position of those in China who since 1984 have resisted the shift away from the stringent "one child" policy, and have blamed the rise in fertility on the "opening small holes" policy (that is, allowing an increasingly larger proportion of couples to have a second child after an appropriate interval).[5] This hard-line position, however, overlooks the fact of the steady birth rate around the low 20s since both before and after the one child campaign in 1979-1980 and the distinct possibility of flaws in the data in the 1983-1985 period.

In short, China's population planning effort was about as effective as it could have been. Further reductions in fertility, although eagerly urged by some, must realistically await wider and deeper economic development and modernization. The large and still growing population of China notwithstanding, the economic reform and deregulation of the 1980s have wrought considerable improvement in standards of living. There is good reason to believe that these initatives can contribute more to China's future demographic well-being than can population con-

Continued on page 8

Table 2. China's Population and Vital Statistics, 1982-1990

Year	(1) Reported population (year end)	(2) Crude birth rate	(3) Crude death rate	(4) Estimated population (year end)	(5) Reported births[*]
1982[**]	1,008,175,288	20.9	6.4		
1982	1,015,900,000	21.1	6.6		
1983	1,027,640,000	18.6	7.1	1,030,630,550	14,727,209
1984	1,038,760,000	17.5	6.7	1,039,457,860	13,681,347
1985	1,050,440,000	17.8	6.6	1,049,978,608	13,882,174
1986	1,065,290,000	20.8	6.7	1,062,204,928	15,981,719
1987	1,080,730,000	21.4	6.6	1,080,310,589	16,549,825
1988	1,096,140,000	22.4	6.6	1,096,724,804	n.a.
1989	1,111,910,000	20.8	6.5	1,113,459,012	16,710,702
1990[**]	1,133,682,501	21.0	6.1		n.a.
1990	n.a.			1,127,810,313	n.a.

[*] From summary statistics of the National Family Planning Commission's internal annual report. These seem to have grossly understated the level of fertility. For 1987-1989, the National Family Planning Commission gave a much higher number of births than those for the other years. They were 22.58, 22.62, and 22.93 million, respectively (see China Population Newsletter, 1990, No. 4, p. 8).

[**] Census figure.

Canada Charts Its Demographic Future

Through a major three-year demographic research program, Canadians have projected the crest and–equally important–the ebbing of the population wave, as it will pass through that country during the next century.

In some ways, Canada's demographic profile resembles that of other developed countries, especially the United States. Canada has its post-World War II baby boom, a graying of its population, and an important stake in immigration.

Canada's population will peak in 2026 at 31 million according to *Charting Canada's Future*, a publication of the Demographic Review project, spearheaded by Ottawa's Ministry of National Health and Welfare. By the year 2086, however, the population will fall back to the country's 1986 level of 25 million. Canada's population will eventually stabilize at its 1960s level of 18 million.

The demographic review project was launched in response to Canadians' widespread concern about low fertility, an aging population, and perceived rapidly rising immigration, explained mathematical demographer and project leader Mike Murphy in a talk in Washington, D.C., this fall.

The national fertility rate has held steady at 1.7 lifetime births per woman for the past decade, he reported, with no rise evident except in Quebec. Quebec's low rate of 1.4 has recently risen to something over 1.5–apparently in response to further family tax breaks and allowances, recently instituted by this province's government. Even so, Quebec's share of the national population is projected to decline slightly from 26 percent in 1986 to 24.5 percent in 2011.

With no immigration and continuation of the 1.7 below-replacement fertility rate, the report shows that Canada's population would peak at 28 million in 2011, decline to 19 million in 2096, and mathematically disappear–in 800 years.

The assumption of annual net immigration of 80,000 in the report's standard projections is based on the average total immigration of 130,000 a year and estimated emigration of 50,000 a year during 1970-1986. However, targeted immigration rose to 160,000 in 1989. With much immigration offset by emigration out of Canada, the foreign-born share of the population, which has stayed around 15 percent for the past half-century, is projected to rise to 32 percent in 2026 if fertility remains at 1.7 births per woman.

Embassy of Canada

Celebrating in Manitoba: Canada encourages a moderate, controlled increase in immigration.

Immigration during the past four decades primarily affected specific urban areas, the report says. Most immigrants have headed for Toronto, Montreal, or Vancouver. The top 10 source countries for 1986 were, in descending order, the United States, India, Vietnam, Hong Kong, Poland, the United Kingdom, Jamaica, the Philippines, Guyana, and El Salvador. Three decades earlier, the list included only European nations and the United States.

Persons aged 65 and older currently make up 11 percent of Canada's population, a share that will rise to between 20 and 25 percent in 2026 and then level off, if fertility rates remain at 1.7. This aging of the population is slower than in the United States and other Western countries, the report observes, but is inevitable in a low-mortality, low-fertility country.

"Contrary to popular belief, Canada is not facing a population crisis," explained Perrin Beatty, minister of national health and welfare, in a bulletin on the project. He characterized this as the project's "most important finding."

–J. v.d.T.

Copies of *Charting Canada's Future*, written in English and French, with 40 pages of graphics, are available free of charge from Demographic Review Secretariat, Brooke Claxton Building, Room 1654, Tunney's Pasture, Ottawa, Ontario, Canada K1A OK9.

China's Census

Continued from previous page

trol as such. China should not take population planning as an end to be pursued without regard to social and other costs at the couple's level. Instead, China needs to stay its current, less stringent course.

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2. H. Yuan Tien, *China's Strategic Demographic Initiative,* New York: Praeger, 1991 (forthcoming).
3. China Population Newsletter, Vol. 7, No. 4 (1990), China Population Information and Research Center, p. 8.
4. H. Yuan Tien, "China: Demographic Billionaire," *Population Bulletin,* Vol. 37, No. 2 (1983).
5. For a summary of the policy dispute, see H. Yuan Tien, "China's Population Planning After Tiananmen," *Population Today,* Vol. 18, No. 9 (1990), p. 6

A wall chart of 1990 census data shows major demographic indicators for China and its provinces, autonomous regions, and metropolitan areas. To order the China Census Data Sheet contact: Director, China Population Information and Research Center, P.O. Box 2444, 12 Da Hui Si Street, Beijing 100081, China. Cost: $3:00 each.

NOTE: This article was written while serving as an advisor to the China Population Information and Research Center. I am grateful for the help extended me by its director, Mr. Xiao Zhili, and others at the center. Of course, I, alone, am responsible for its contents.

Alfred Sauvy (1898-1990)

Alfred Sauvy, pioneering French demographer, died recently at the age of 92.

Sauvy founded the National Institute of Demographic Studies in Paris in 1945 and directed it until 1962. He served as editor of *Population,* the organization's quarterly journal, until 1975. Sauvy established the Demography Institute at the University of Paris for postgraduate training in demography and taught social demography at the College de France.

Sauvy served as delegate to the U.N. Population Commission for three decades and was president of the International Union for the Scientific Study of Population in the early 1960s.

He was a prolific author, making contributions in a wide range of economics, statistics, and population areas. His work focused on low fertility countries and efforts to raise the birth rate in France.

PROFAMILIA Turns 25

PROFAMILIA–the Colombian family welfare organization–helped one of the highest-fertility countries in Latin America cut its population growth rate in half. When Dr. Fernando Tamayo founded the private, nonprofit organization in 1965, a Colombian woman could expect to have nearly seven children during her childbearing years. Today, women average fewer than three.

A great increase in the use of family planning accounts for much of the decline. More than half of Colombian women currently use modern methods of contraception, and the majority of these obtain them through PROFAMILIA, which operates a network of 48 clinics in both urban and rural areas.

An illustrated booklet, "Building an Effective Family Planning Program: The Story of PROFAMILIA," written by PROFAMILIA personnel and originally produced in Spanish by PRB's IMPACT Project, is now available in English from PRB, free of charge. For the Spanish version, contact: PROFAMILIA, Calle 34 No. 14-52, Bogota, Colombia, 57-287-21-00.

SOFTWARE

PEDICT, a recently developed English-Chinese and Chinese-English electronic dictionary, is now available from the Peking University Press. It includes 25,000 English terms and their Chinese equivalents in demography, family planning, sociology, economics, public health, and related areas. It allows the user to search for terms in either direction and works with partial entry of terms. It is user-friendly, and offers a main menu in both English and Chinese.

The software (ISBN 7-301-00131-2/C.24) is designed for the IBM PC and compatibles with hard disks with 3 Mb free space. It works with DOS 2.1 or above. PEDICT is available on either 5.25 ($119.95) or 3.5 inch disk ($149.95). It may be purchased directly from the Peking University Press, Beijing 100871, China, or from Fanghui David Feng, China Population Information and Research Center, P.O. Box 2444, Beijing 100081, China (telephone number, 86-1-831-2669; fax, 86-1-831-2653).

–H. Yuan Tien

POPULATION UPDATE

Estimated United States Population:

As of August 1, 1990	251,641,000
As of August 1, 1989	249,003,000

The above estimates, the latest available, include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports,* Series P-25, No. 1065. The estimates do not yet incorporate the preliminary results of the 1990 Census.

Estimated World Population:

As of January 1991	5,368,000,000
Annual growth	93,000,000

Extrapolation from the mid-1990 population on PRB's *1990 World Population Data Sheet.*

Latest Provisional Statistics for the U.S.: July 1990

	12 months ending with July					
	Number		Rate			
Item	1990	1989	1990	1989	1988	1987
Live births	4,124,000	3,957,000	16.5	16.1	15.8	15.6
Deaths	2,158,000	2,149,000	8.6	8.7	8.9	8.7
Natural increase	1,966,000	1,808,000	7.9	7.4	6.9	6.9
Marriages	2,414,000	2,398,000	9.7	9.7	9.7	10.1
Divorces	1,181,000	1,183,000	4.7	4.7	4.7	4.8
Infant deaths	38,400	38,900	9.3	9.3	10.0	10.1
Population base (in millions)	. . .	. . .	249.6	247.3	244.7	242.2

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.
Source. Monthly Vital Statistics Report (Vol. 39, No. 7) from the National Center for Health Statistics.

Ethiopia

Continued from page 5

Rural Patterns Dominate

In rural areas, the estimated total fertility rate (TFR) rose from 5.6 to 7.7 children per woman between the 1965-1970 and the 1980-1981 periods. Urban areas like Addis Ababa, however, had comparatively low fertility in the 1960s, and declined from five children per women in the 1970s to four children in the early 1980s.

Ethiopia's rise in fertility reflects a phenomenon often observed in the early stage of modernization. Improvements in food and health delivery systems can reduce infertility and subfecundity previously caused by disease and malnutrition. Modernization also tends to reduce breastfeeding, which is thought to inhibit conception.

The lower fertility of Addis Ababa, the author suggests, was an effect of urbanization and education, which raised the age at marriage, increased marital instability, and led to fewer women being married.

Urban dwellers, however, make up only 11 percent of Ethiopia's total population. Furthermore, the 1980-1981 Demographic Survey showed that only 7.4 percent of women aged 10 years and older were literate. The fertility pattern noted for rural people, then, seems likely to prevail for the immediate future.

Even with its high fertility for the population as a whole, however, Ethiopia has a relatively slow natural increase because of its high mortality. Ethiopia has one of the lowest life expectancies at birth and highest infant mortality rates in the world.

–M.Y.

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Brass, W. 1975. *Methods for Estimating Fertility and Mortality from Limited and Defective Data*, Laboratories for Population Statistics, University of North Carolina, Chapel Hill.

Tsefaghiorghis, Habtemariam. 1990. *Fertility Levels and Trends in Ethiopia*. Research Note of the Department of Demography, Research School of Social Sciences, Australian National University, Canberra, ACT, Australia.

TAKE A NUMBER

An Eye on Eire: Whither the birth rate in traditional, heavily Catholic Ireland? The Irish birth rate has been falling steadily, and 1989 was no exception. From 21.8 births per 1,000 population in 1980 to 14.7 in 1989, fertility in Ireland has shown a remarkable decline. In fact, the Irish total fertility rate, estimated at 2.08 lifetime children per woman is even a bit below "replacement" level. Now, the Irish have a woman president–and not just any woman, but a socialist feminist who has been outspoken on the subject of liberalizing Ireland's abortion, contraception, and divorce laws. Currently abortion and divorce are illegal, and contraception became legal only a few years ago. While the office of president is largely ceremonial in Ireland, Mary Robinson's new position may well prove to be an influential platform. Time will tell. After all, the world's lowest fertility is in Italy, for heaven's sake.

U.S. Birth Rate Waffles: While we should never place too much emphasis on monthly data, interest in the rising U.S. birth rate is so widespread that we can't help watching it very closely. Monthly births in 1990 were higher than the corresponding month in 1989–until July. July 1990 births (362,000) were a bit below July 1989 (372,000)–see "Population Update," page 9. Birth-rate watchers are, of course, speculating on the likelihood that U.S. fertility will climb back to the "replacement level," a total fertility rate of 2.1 lifetime births per woman. (At replacement level fertility, couples just replace themselves in a population, which leads eventually to zero population growth.) The current crude birth rate of 16.5 births per 1,000 population suggests that it is getting very close to that level.

–C.H.

ADDENDA

Populandia Patter

Populandia, *Population Today*'s much-discussed mythical mini-continent in the Pacific Ocean, crossed the 1 billion mark last year. Designated as the repository of all the world's natural increase (births minus deaths) since January 1, 1978. Populandia's current population (as of January 1, 1991) is 1,072,474,712.

Just six years ago, Populandia passed the half-billion mark. The number of children added to Populandia has been increasing over time. The numbers of immigrants to Populandia will continue to increase for some time as the world population increases, even though the rate of natural increase in the world has been going down and will continue to decline.

Now, each day, more than 256,000 children swell the population of the mythical island. Populandia has as many people now as the entire world at the turn of the 19th century.

The oldest Populandians are age 13, just reaching their childbearing years. Populandia, whose purpose is to relieve population crowding, is itself not only growing congested, but also will soon have natural increase of its own.

–N.R.

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 1875 Connecticut Ave., N.W., Suite 520, Washington, D.C. 20009-5728.

ENVIRONMENT DATA REPORT 1989/90, by United Nations Environment Programme, and prepared by the GEMS Monitoring and Assessment Research Centre in cooperation with the World Resources Institute and the U.K. Department of Environment. 2nd ed. Oxford: Basil Blackwell Ltd., 1990. 547 pages, $44.95 paper. ISBN: 0-631-16987-3.

This book is a report of the Global Environmental Monitoring System (or GEMS) Project of the United Nations Environment Programme. It is published biennially and provides detailed and annotated information for use in environmental assessments at the country and international levels.

Although it mainly presents tables and figures of environmental information, the report also includes some analyses of interactions between human activities and the resource base. The analyses summarize global trends (both over time and for geographical areas), as well as regional patterns of resource use. One chapter covers population and settlements.

Partly reflecting the nature of the publication, the book's analyses are less systematic than might be wished. For example, the chapter on population does not link rapid population growth and uneven distribution of population to differential levels of resource availability and pollution (which are discussed in other chapters). Future reports could probably benefit from an organizing framework that will make "policy sense" out of the volumes of data provided.

Major topics include pollution, climate change, energy consumption, transport, wastes, and natural resources. The detailed discussion of natural disasters is very useful, as it compiles information from various sources and provides sufficiently reliable estimates of the human costs associated with disasters.

The last chapter discusses various institutional arrangements for international programs, such as environmental organizations, enabling legislation, and various types of information sources worldwide. One interesting table describes otherwise unavailable information from satellite remote sensing and the Environmental Data Compendia data base.

Whenever possible, the report gives statistical data for each country. Most of the tables are at least classified by region. The appendices contain various lists of tables, topics, and other information from earlier reports.

–Chona Cruz

THE POLITICS OF RICH AND POOR: Wealth and the American Electorate in the Reagan Aftermath, by Kevin Phillips. New York: Random House., 1990. 262 pages. $19.95 hardback. ISBN: 0-394-55954-1.

Political analyst Kevin Phillips surprised many people with this book. The former Republican strategist's first book, *The Emerging Republican Majority,* in 1967, delineated the strategies that would consolidate conservative political power in the Nixon and Reagan eras. Now, Phillips takes a stiletto to the Reagan/Bush Era.

Phillips compares the present moment to earlier conservative "heydays"–such as the 1920s and the Gilded Age at the end of the last century. In those times, like our own, wealth concentrated dramatically at the uppermost end of the income scale, a process helped along by governmental policies of deregulation, high interest rates, and low taxes. Phillips finds, however, that these political eras ended abruptly, in a series of "watershed elections." Voters chose presidents who represented liberal social ideologies, such as Franklin D. Roosevelt (1932), Abraham Lincoln (1860), Andrew Jackson (1828), and Thomas Jefferson (1800).

The times have come round for another such reversal, Phillips admonishes, but he engages in little crystal-ball gazing. Instead, he focuses on what happened in the 1980s. He examines data from mostly government sources to analyze U.S. "plutographics" (a tongue-in-cheek buzzword for the demographics of wealth) and the sharpening contrasts between wealthy versus other income classes. For example, in the United States between the early and late 1980s, the number of millionaires rose from 600,000 to 1.5 million; the number of decamillionaries ($10 million-plus) rose from 38,855 to 100,000; and the number of billionaires from 13 to 51 (1988 count).

The book is a lively investigation of the relationships between social class and politics in the United States.

–Susan Kalish

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UNITED STATES

(Part 2 of 2)

Population (1990 est.): 251,641,000
Land Area: 3,539,289 sq. mi.
Population Density: 71 persons/sq. mi.
Births per 1,000 Population: 16.6
Deaths per 1,000 Population: 8.7
Rate of Natural Increase: 0.79%
Total Fertility Rate: 1.99
Infant Mortality Rate: 9.4 per 1,000 live births
Life Expectancy at Birth: 74.9
GNP per Capita (1988): $19,780

by Kelvin Pollard

Former CBS commentator Eric Severaid once noted, "Anything you can say about America is likely to be true." Severaid was no doubt referring to the diversity found in the United States. At once, it is white-collar and blue-collar. Urban, suburban, and rural. Multiethnic, but with areas of relative homogeneity. Frostbelt and Sunbelt. Areas of great wealth and pockets of extreme poverty. In many ways, the United States is one of the most diverse countries in the industrialized world.

The United States is a racial/ethnic mosaic. Three-fourths of America's 251.6 million persons are of European descent. However, higher fertility rates among non-European groups and immigration from Asia and Latin America are making the population increasingly multicultural. For instance, blacks and other nonwhite groups have fertility rates above replacement level (the total fertililty rate in 1988 was 2.5 lifetime births per woman), while white fertility was 1.8–below replacement level. Moreover, African-Americans, Hispanics, Asian-Americans, and Native Americans grew 1.5 to six times faster than the white population over the last decade.

About one American in five changes residence each year. Some, however, are more mobile than others. Young adults move the most–nearly one in three people aged 25 to 29 changed residence between 1986-1987. By contrast, only 1 in 20 people age 65 or older migrated in that time, despite the popular image that most elderly retirees relocate, particularly to the Sunbelt.

Over the past 20 years, the northern states have lost population while the South and West gained. Southern and western states now contain 55 percent of the population, compared to 48 percent in 1970. Migration patterns also vary among urban, rural, and suburban areas. Between 1986 and 1987, approximately 1.97 million more people moved into suburbs than moved out. Central cities and rural areas, in contrast, experienced net outmigration. The new growth areas for employment and residential centers are now on the outer fringes of major metropolitan areas.

Even the much-discussed "graying of America" means different things for different population groups. A record 12 percent of Americans are age 65 and over, and the percentage of elderly in the population has increased for all racial/ethnic groups. That percentage, though, is greater for whites (13.3 percent) than for blacks (8.3 percent) and Hispanics (5.2 percent). At age 50, whites can expect to live 28.9 more years–3.3 years more than for their black counterparts (1987 figures).

Population groups have benefited differently from America's wealth, which, on a per capita basis, is the sixth largest in the world. In 1989, 13 percent of Americans lived below the official poverty level; but 20 percent of children were poor. Moreover, the percentage of blacks and Hispanics in poverty was more than double the national rate. In addition, recent trends suggest a growing gap between rich and other income classes. From 1980-1989, for example, the share of aggregate household income earned by the richest 20 percent of households increased from 44 to 47 percent.

The diverse elements making up the United States will strongly influence the nation's future. The country's educational system and labor force, for example, will soon reflect the increasing racial/ethnic diversity. The aging of the population will test the Social Security and health care systems. How America's policymakers deal with these and other issues will affect the quality of life well into the 21st century.

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POPULATION TODAY

Vol. 19, No. 2 February 1991

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Robert J. Bennett

This rural child is likely to have younger parents than city children (see page 6).

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FROM THE EDITOR'S DESK

A couple of issues ago, a young PRB staffer came to me with a complaint. A PT Survey Report she'd read in the galley stage mentioned douching among other "traditional methods" of family planning.

"Douching is *not* a method of contraception," she objected. "It doesn't work." Nor was she comfortable with other items on the list of traditional methods, such as withdrawal (*coitus interruptus*) and breastfeeding.

From the perspective of a young women living in the United States in the 1990s post-pill, post-sexual-revolution era, those methods may seem like no birth control at all. But they do help to lower fertility and, in some countries, they account for more fertility reduction than the use of modern methods.

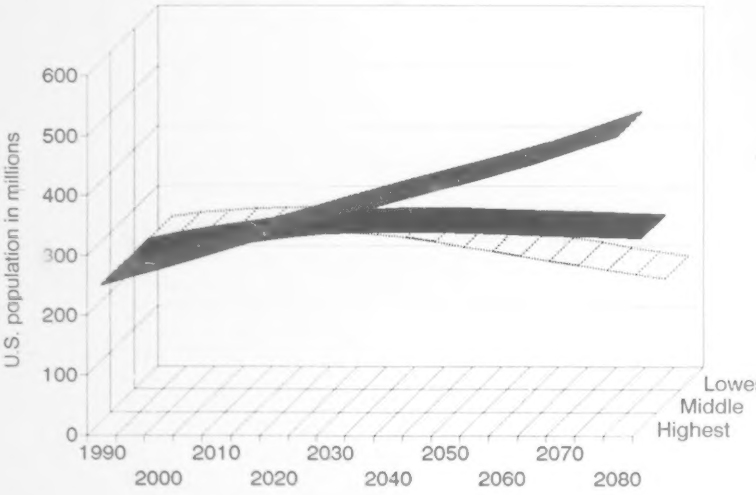
Indeed, within many developing countries, use of traditional methods is an important indicator of both the desire to limit family size and a potential demand for more effective methods. The attempt to use a traditional method demonstrates a desire to control one's own fertility. Where this motivation exists, couples are more likely to seek out modern, more effective methods if traditional methods fail.

Our staffer's strong reaction, however, is one example of how differently population issues can present themselves in developed and developing countries. Which contraceptive options are culturally acceptable or even technologically feasible in the two contexts may seem worlds apart. We need sensitivity to such differences to close the gap.

–Susan Kalish

SPEAKING GRAPHICALLY

Ribbon Graphs–Ugh!



U.S. population projections: Lowest, middle, and highest series, 1990-2080

We have seen the ribbon graph, a new option in several software packages, and we do not like it. For example, take the Census Bureau projections for the U.S. population, above. Could you guess that the highest projection for the year 2080 (green ribbon) is 501 million? The width of the ribbon itself suggests a range of values of about 30 million. Graphic purists object even to three-dimensional "shadows" on a graph; with the ribbon graph, the shadow becomes the substance. Even more quirky, the highest point of the ribbon lies quite a bit *below* the dotted guideline connected to the 500 million point on the vertical scale.

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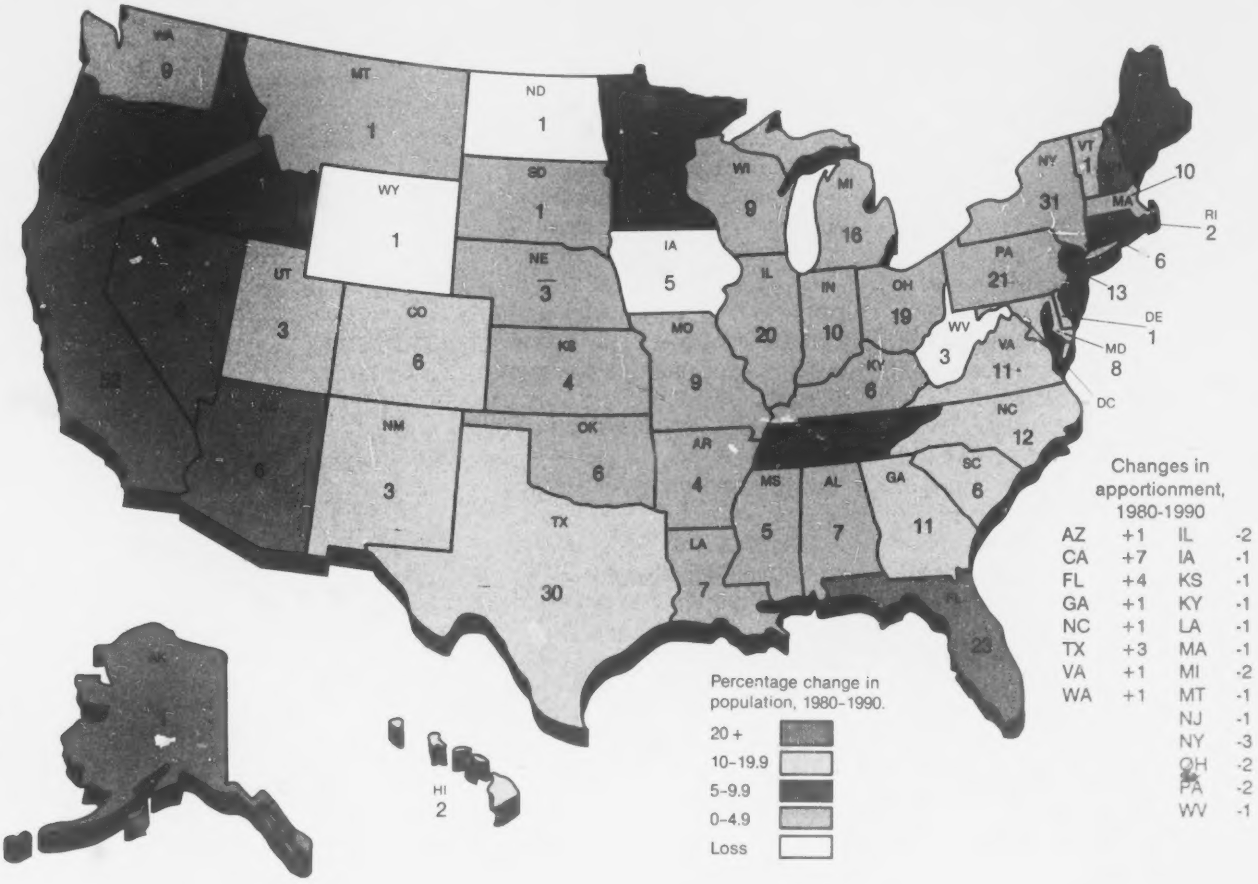
Recycled Paper

Census: 248,709,873 U.S. Residents

Apportionment of Seats in the House of Representatives and State Population Changes, 1980-1990



Changes in apportionment, 1980-1990

AZ	+1	IL	-2
CA	+7	IA	-1
FL	+4	KS	-1
GA	+1	KY	-1
NC	+1	LA	-1
TX	+3	MA	-1
VA	+1	MI	-2
WA	+1	MT	-1
		NJ	-1
		NY	-3
		OH	-2
		PA	-2
		WV	-1

It's done! 248,709,871, 248,709,872, 248,709,873. That's it, the 1990 Census is over. There will be adjustment debates and undercount controversies, but there will be no more counting. During the 1980s, the U.S. population grew by 22.2 million, up from 1980's 226,504,825—an increase of 9.8 percent. The South and West, or "Sunbelt," continued to outpace the national average: The South grew by 13.4 percent, and the West by 22.3 percent. Meanwhile, the Northeast logged only a 3.4 percent gain and the Midwest a lowly 1.4.

The "Big Three"

California far outstripped the growth of any other state from 1980 to 1990, increasing by a phenomenal 6.1 million. The numbers added to California's population alone would qualify as the nation's 13th largest state! The Golden State's demographic dominance was shared by both Florida and Texas. The lion's share, perhaps three-fourths, of California's growth was the result of immigration, not of people moving to California from other states.

Taken together those three states (the "Big Three," we'll call them) accounted for over half of national population growth in the 1980s. As impressive as that growth is, it is only continuing a pervasive pattern of the post-World War II period. Over the four-decade period from 1950 to 1990, 40 percent of total U.S. population growth took place in the Big Three. Thus, the dominance of the three fastest-growing states is not a new development, but a long-term trend that has simply intensified.

During the 1980s, four states lost population: Iowa (-4.7 percent), North Dakota (-2.1), West Virginia (-8.0), and Wyoming (-3.7). The District of Columbia also experienced a net loss for the decade, -4.8 percent. Note that two of the states where growth declined, Wyoming and West Virginia, are part of the Sunbelt.

Nevada's increase of 50.4 percent easily took the national "fast growth" crown. That state's population has shot up to 1,201,833 from a mere 160,083 in 1950, the Census Bureau reports. Several other states experienced more than 20 percent growth since 1980: Alaska (37.4), Arizona (34.9), and New Hampshire (20.5). Only one other state in addition to the Big Three added more than 1 million population: Georgia grew by 18.6 percent from 5,464,265

Continued on next page

U.S. Census
Continued from previous page

in 1980 to 6,478,216. (See *Take A Number*, p. 10 for state-by-state counts.)

Sunbelt Growth

What do these state-level census returns tell us? There are no real surprises in overall patterns of growth and we certainly wouldn't expect any at the state level. The 1990 Census has generally confirmed that the move to the Sunbelt has continued. At present, just over 55 percent of Americans live in either the South or West, a reversal of the situation 1950, when 55 percent lived in the Northeast and Midwest. Growth or decline trends just becoming evident in the late 1980s, however, may not be reflected in the 10-year census data. For example, although Texas was a growth leader in the 1980s, its growth in the second half of the decade is estimated to have tapered off. Declines in the fortunes of the oil industry have hurt Texas and other gulf states. To the North, growth standout New Hampshire has begun to feel the effects of a downturn in electronics and defense-related industries. Thus, not all of the trends observed from 1980 to 1990 may predict the shape of things to come in the 1990s or beyond.

Count Trails Estimate

The overall census count is notable for at least one thing: it is somewhat lower than the figure that had previously been estimated for April 1, 1990, 250.2 million. For two censuses now, counts have been noticeably different from precensal estimates. The 1980 Census was higher than expected (by about 4.6 million), and the 1990 count was somewhat lower. These differences may have as much to say about the nature of making population estimates in a country as large and diverse as the United States as they do about census accuracy.

Nationally, the census results came in about 1.5 million short of the precensal estimate. How far away from their anticipated counts did different states and regions come in? By projecting the last Census Bureau state estimate for July 1989 forward nine months to the census date, we can examine these state and regional differences. Of the four main Census regions, only the West was reported with a larger population than estimated. Most state counts were lower than expected, including every state in the Midwest. Illinois had the largest shortfall; its count of 11,430,602 was about 260,000 low. Pennsylvania was 190,000 low. California proved an exception even in this race, as its count bucked the national trend and was about 140,000 higher than predicted. Next in line with a higher-than-expected count was, surprisingly enough, Massachusetts with 86,000 more Bay Staters than anticipated. These comparisons are interesting but, of course, they cannot be used as evaluation of the census.

Sturm und Drang

The *sturm und drang* over the census count began earlier than usual this time around with the Census Bureau's release of not-quite-complete counts for local review. The total of those early numbers was only about 246 million—4 million shy of the estimate of 250 million—which caused quite an outcry. Now, the full process is complete, including the local review of small area counts. The final count of 248.7 million is quite a bit closer to that earlier 250 million estimate.

When the new count was released between Christmas and New Year's, a second furor was caused by the fact that the count was about 4 million short of 253.8 million, now said to have been a new estimate for the same date. At this point, the Census Bureau must have felt that it was chasing a moving target.

The new "target" figure turns out to be a hypothetical figure developed by the Census Bureau. It is derived by applying estimated undercount factors to the 1980 Census; making corrections for birth registration data, particularly for black males; and, in a sense, developing an idea of the "true" national population figure. But it would still be inappropriate to use any such figure as a benchmark of census completeness.

To complicate matters a bit further, the numbers released by the Bureau in late December were actually counts used for apportionment, which include armed forces and government employees reallocated to their home of record. That number was 249,022,783 and it did not include the population of the District of Columbia, which has no congressional seats and thus no apportionment count.

Counts for cities and counties will not be available until after we go to press, along with local area numbers for state redistricting, which will be released as they are ready. All redistricting data will be out by April 1. Then, by July 15th, the Secretary of Commerce must decide whether to adjust the census count itself. Stay tuned.

—C.H.

PRB's new U.S. Data Sheet Released

PRB's just-released United States Population Data Sheet (ninth edition) displays key demographic measures for states, regions, and the country as a whole. The data sheet not only details changes in population between 1980-1990 (incorporating data from the 1990 U.S. Census) but also provides projections to the year 2010 and historical comparisons back to 1890. This colorful, readable, 18 1/2 x 24 inch wall chart is an essential teaching tool and an invaluable reference resource. Cost: $3 each; 2-10, $2.75 each; 11-50, $2.50 each; 51 or more, $2.25 each. Prepay orders of less than $50 by check, Master Card, or Visa. Add $1.00 or 3 percent of the cost of the publication (whichever is greater) for postage and handling. Contact: Circulation Department, PRB,
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"Sudah dicensus?"–Census of Indonesia

Complications seem to plague census takers, wherever they are. Consider the recent census of Indonesia, which, as a guest of the Central Bureau of Statistics, I observed first hand this fall.

Census planners in this scattered island nation of the Pacific stipulated that most people were to be enumerated in their usual residence, *de jure,* defined as a place where they had lived, or intended to live, for at least six months. Supposedly, this left *de facto* enumeration to such relatively peripheral groups as nomadic and homeless persons, and ships' crews. The scheme, however, was to some extent undermined by preexisting designations of official *de jure* residence on ID cards, which sometimes misstate the actual abode of Indonesian citizens.

The basic system of identification is the *kartu keluarga* (KK or "family card"). The KK is a local register of all members of the household, including head, spouse, children, other relatives, and servants. The KK is the basis for procedures for formally changing residence, but many urban dwellers continue to be listed on the KK at their rural parental home, because it is difficult to process a formal change.

The *kartu tanda penduduk* (KTP or "population card"), which all adult citizens are required to carry, is based on the information on the KK. Indonesians may carry other forms of ID as well: a government employee card, the worker's card, or the birth registration, for example. The information on these may not agree with that on the KTP.

A number of people I met in the capital city of Jakarta were obviously long-term residents, living in workplaces, kiosk shops, or restaurants. But as they pointed out, they could not be counted there since they were not allowed to register their KTP in the crowded city.

Several factors combined to make census officials (400,000 were trained) somewhat overly reliant on ID cards. For one thing, the definition of residence left it unclear how people should be enumerated if they have not and do not intend to live in their current place of residence for six months. In addition, the census takers were instructed to interview household heads or, when this was not possible, other responsible residents. Because enumerators worked mainly during the day, however, it was often not possible to meet a householder. While the emphasis was on personal interviews, there is no record of what proportion of interviews occurred with household heads as opposed to other members, or even non-members, of the household.

World Bank/Ray Witlin

Jakarta neighborhood: Part of the urban undercount?

On a number of occasions I observed that when interviewers relied on non-family members or neighbors for information, the immediate reaction was to reach for the KK.

During my visit in the middle of the census enumeration, my question "*Sudah disensus*?" ("Have you been 'censused?'") brought some strange responses. "Sure, five months ago" or "Yes, last year at work." It was evident that the term *sensus* in Indonesian covers a lot more than the official decennial count. People talk of the *sensus* for the election, for the population registration checks, the regular listings of the local government, the household visits of health workers for family planning or other programs, village welfare programs, and the listing for the land and building tax.

In Indonesia (and probably in many other developing countries), the government may be approaching diminishing returns in promoting numerous, confusing, and potentially contradictory attempts to count the citizenry.

As Indonesian society becomes more mobile, people spend extended periods away from original family homes, going to school, seeking work, or merely living in new "unofficial" homes. They are essentially modern nomads, round pegs in the square holes of *de jure* enumeration, but potentially not included in the actual listing either.

To what extent might such problems have affected the counts? If people are excluded from urban counts *and* the counts of their official homes, an overall undercount would result. Most likely, however, would be an undercount in urban (and overcount in rural) areas. That would have serious consequences for estimates of the needs for housing, water, sanitation, and welfare facilities. Similar urban undercounts have emerged in Mexico and the Philippines (Haupt 1990; Molina 1990; de Villa 1990).

These, however, are not reasons for rejecting the census results–rather, for being especially open and careful in analysis (West and Fein 1990). The soon-to-be published 1990 figures are eagerly anticipated, for they will provide us with the most thorough population count to date in the most populous country of Southeast Asia.

–Terence H. Hull

Terence H. Hull is senior research fellow in the Department of Political and Social Change, Australian National Univeristy.

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DEMOGRAPHER'S PAGE

Gonna Get Married: Family Formation in Rural Areas

by William P. O'Hare

"Gonna get married,
You know, my name she'll carry..."

Songs with a country twang have long celebrated young love, marriage, and parenthood in rural America. But what do we know about the actual patterns of marriage and childbearing of today's rural youth?

This article explores the family formation experiences of rural youth in the United States. It presents, as it were, a statistical class reunion portrait of the graduating class of 1980. The imaginary reunion takes place six years later, in 1986, when the graduates had reached their mid-20s. If, at the reunion, the graduates from rural high schools compared notes with those from urban high schools on how their personal lives were unfolding–they would probably find themselves discussing the points made in this article.

The data come from the *High School and Beyond* data set, a large, nationally representative longitudinal survey carried out by the U.S. Department of Education in the 1980s. For the purposes of this article, youth were considered *rural* if they graduated from a high school located outside a metropolitan area, as defined by the U.S. Census Bureau. They were considered *urban* if they graduated from a high school–inner city or suburban–that lay within a metro area. Approximately 2,100 counties across the nation are nonmetropolitan. The sample included 6,736 people from urban areas and 2,637 from rural areas. It represents the early marital and childbearing experiences of the 3 million people who graduated from U.S. high schools in 1980.

Looking at urban and rural youth together, about half (53 percent) of the graduating class of 1980 were unmarried and childless six years later. Forty-one percent were married, with about equal numbers married but childless (21 percent) or married with at least one child (20 percent). Six percent were unmarried and had at least one child.

Michael Siluk

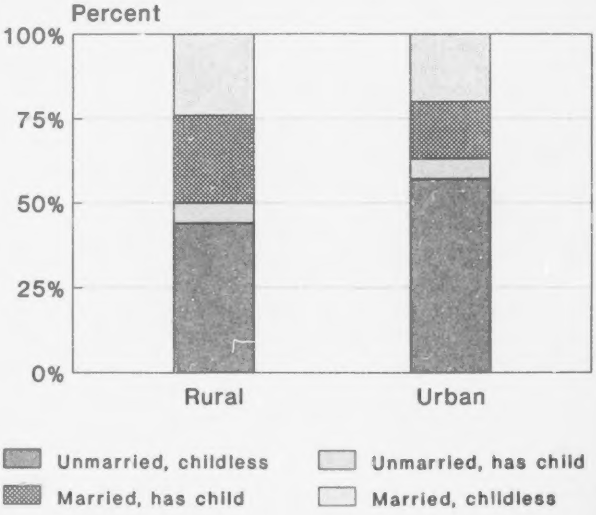
Young family in rural Minnesota.

Rural and Urban Patterns

There were real differences in the timing of marriage and parenthood for the rural and urban members of the class of 1980 (see Figure 1). Rural young people were more likely to be married and have children than their urban counterparts. Among graduates of rural high schools, 50 percent were married six years later, as opposed to just 37 percent of those from urban high schools. About one-fourth (26 percent) of the rural group, but only 17 percent of the urban group, was married and had at least one child. Only 44 percent of the rural group were unmarried and childless. In contrast, 57 percent of the urban group were in that situation.

Even though the rural group had more children six years after high school graduation, they will not necessarily have larger families than the urban group. Census Bureau studies show that, even though rural women tend to start having children earlier, they end up with no more children than urban women (an average of 2.1 children). This finding of earlier family formation, however, seems to contradict a leading fertility theory that suggests that people postpone marriage and have fewer children in the face of economic uncertainty. Rural youth certainly faced a dimmer economic picture than their urban counterparts in the early 1980s.

Figure 1. Marriage and Parenthood for the High School Graduating Class of 1980: Six Years Later (1986)



Source. PRB analysis of *High School and Beyond* data set from the U.S. Department of Education.

Formerly director of policy studies at PRB,
William P. O'Hare is currently director
of the Center on Population and Public Policy,
University of Louisville

Between 1979 and 1988 the real mean earnings of young (16 to 34) rural workers dropped from $14,176 to $12,569: a decline of 11 percent. During this period, the real mean earnings for young urban workers dipped only 2 percent.

Impact of Region and Race

Since a disproportionate share of the rural population is located in the South, it is necessary to determine whether rural/urban differences in marriage and childbearing are partly a product of that regional concentration. Over one-third (37 percent) of those graduating from rural high schools in 1980 were in the South. Closer examination of the data shows that being from the South accounts for some, but by no means all, of the differences between rural and urban family formation patterns.

The marriage and childbearing patterns of young people in the South do appear different from the rest of the country. Those who graduated from either rural or urban high schools in the South were more likely to have a child (regardless of marital status) and they were less likely to be unmarried and childless. Taking rural and urban youth together, one-third of those from the South but less than one-fourth of those in the North and West had a child by 1986. While nearly half of southern youths who graduated from high school in 1980 had married by 1986, less than two-fifths of their counterparts in the North and West had married by then.

Table 1. Rural versus Urban Patterns of Family Formation in Different Regions

	Rural		Urban	
	South	North & West	South	North & West
Married, has child	30%	24%	20%	15%
Married, childless	22	24	23	19
Unmarried, has child	8	4	9	5
Unmarried, childless	40	47	47	61
Total	100%	100%	100%	100%
(Weighted N, in thousands)	(349)	(593)	(576)	(1,499)

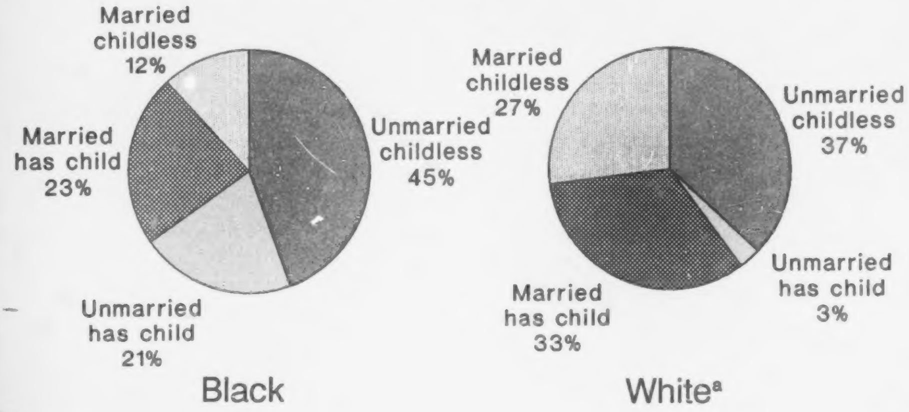
Note. High school graduating class of 1980, six years later (1986). Columns may not sum to 100 percent due to rounding.

Source. PRB Analysis of *High School and Beyond* data set from the U.S. Department of Education.

Even within the South, however, the experiences of rural and urban youth differ, as Table 1 shows. While 47 percent of urban youth in the South were unmarried and childless six years after graduation, only 40 percent of rural southern youth were in that situation. At the same time, 30 percent of rural southern youth were married with a child, compared with only 20 percent of those who graduated from an urban high school.

The data also reveal racial differentials within the rural South (Figure 2). However, percentage point estimates should be read cautiously because of the small sample size of these subgroups. Whites appear more likely than blacks to be married: 60 percent for whites compared with 35 percent for blacks. Only 3 percent of whites but 21 percent of blacks were unmarried parents. Among those rural high school graduates in the South who had children by 1986, nearly half of the blacks were unmarried compared to less than one-tenth of whites. Of those southern rural youth who were married, blacks were more likely to have a child. About two-thirds of married blacks had a child compared to 55 percent of married whites. A greater share of young black high school graduates in rural areas remained single and childless than white high school graduates (45 percent for blacks compared with 37 percent for whites).

Figure 2. Racial Differences in Marriage and Parenthood among Graduates of High Schools in the Rural South



[a] Includes non-Hispanic whites only.

Note. High school graduating class of 1980, six years later. Percentages may not sum to 100 due to rounding.

Source. PRB analysis of *High School and Beyond* data set from the U.S. Department of Education

Conclusion

The timing of marriage and parenthood affect the educational and career prospects of young adults. The pattern of earlier marriage and parenthood among rural members of the high school class of 1980—evident by 1986—

Continued on page 9

USAID's Cooperating Agencies Meet

The U.S. Agency for International Development's (AID) Office of Population held its seventh annual Cooperating Agencies Meeting November 26-28, 1990. Sessions covered such wide-ranging topics as contraceptive technologies and links between population and the environment. Almost 500 people representing population, family planning and environmental organizations attended the three-day meetings, all with the common purpose of mapping future directions for population assistance to developing nations.

Richard Bissell, assistant administrator of AID's Bureau of Science and Technology, opened the meeting by calling for more private sector involvement in family planning to meet the rising demand that cannot be borne by the donor community alone. AID's top administrator Ronald Roskens lauded the population community as "the front-line troops" of international development efforts.

In a colorful keynote address, Michael Robinson, director of the National Zoo, explained how population growth threatens the tropical ecosystems that play host to over 90 percent of known animal species. Duff Gillespie, agency director for population, highlighted the importance of risk-taking in family planning programs, for example, initiating programs in areas initially indifferent or even hostile to family planning.

Halfdan Mahler, secretary general of the International Planned Parenthood Federation, added a sense of moral weight to the deliberations, exhorting participants to crusade for greater population assistance, for the well-being of mothers and children and for the future of the planet.

"Breakout" sessions and small-group discussions explored contraceptive method mix, evaluation and operations research, cultural barriers, AIDS and condoms, communications, and the quality of care.

The meetings culminated with a field trip to Capitol Hill to hear a panel of congressional staff members discuss population issues. Two messages clearly emerged: that House members need concrete evidence to show that 1) family planning works; and 2) dollar-for-dollar, population programs are equally or more effective compared to other types of development assistance. It also became clear that population organizations have not been successful enough in communicating the message that family planning is one of the biggest success stories in the 1980s—a decade that some characterize as "lost" for development.

—A. de S.

Upcoming Conferences

- The **1991 annual meeting of the Population Association of America** will take place March 21-23, at the Omni Shoreham Hotel in Washington, D.C. Contact the PAA, 1722 N Street, N.W., Washington, D.C., 20036, (202) 429-0891.
- **Census Bureau Annual Research Conference,** March 17-20. Holiday Inn Crowne Plaza in Arlington, Virginia (close to Washington, D.C.'s National Airport). Contact Maxine Anderson-Brown, ARC Conference Coordinator, Office of the Director, Bureau of the Census, Washington, D.C., 20233, (301) 763-1150.
- The **Fourth Annual Hunger Research Briefing and Exchange** will be held at Brown University in Providence, Rhode Island, on April 3-5. The briefing is cosponsored by the Alan Shawn Feinstein World Hunger Program and Interaction, the American Council for Voluntary International Action. Contact Brown University, Box 1831, Providence, R.I., 02912, (401) 863-2700.

SOFTWARE

IPSS (Interactive Population Statistical System) is a powerful but extremely user-friendly projection-simulation package, featuring dazzling graphics, easy data input, and useful modelling options. It can be used for research and presentation in a variety of settings and comes bundled with demographic data for the 50 U.S. states and selected countries.

IPSS calculates cohort component projections and simulations, creates life table analyses, and a vast array of related statistics. Projections and life-tables are based on five-year, age-specific fertility rates, survival rates, and net immigration counts. Easy modifications produce output based on user-defined conditions.

No other software matches IPSS' graphics. One can produce 2-D or 3-D bar graphs, population pyramids, and life graphs for 30 different statistics in selected formats, and eyeball alternative outcomes at the click of the mouse! Graphs are displayed in color or black and white and are produced on standard output devices for publication or presentation. Data can be keyed in, transferred from spreadsheet programs, or "drawn" on the screen.

The excellent documentation includes useful tutorials. IPSS will run on all Apple Macintoshes with at least Mac Plus capabilities, two 800K disk drives, or hard disk. (IPSS Plus, a faster version, requires a 68020/030 math co-processor.) IPSS lists for $295 ($395 for IPSS Plus), with a video demonstration package for $15. Contact: PSRC Software, Bowling Green State University, Bowling Green, Ohio 43403. Phone: (419) 372-8648.

—William H. Frey
Population Studies Center
University of Michigan

Robert Cook (1898-1991)

Robert Cook, pioneer in the population field and former president of the Population Reference Bureau, died early this year at the age of 92.

Mr. Cook served as editor of the *Journal of Heredity* of the American Genetic Association from 1922 to 1962. There he helped shape the infant science of genetics, working with such prominent figures as Alexander Graham Bell and Julian Huxley. During the 1930s he began to work with PRB's founder, Guy Irving Burch, and when Burch died in 1951, Robert Cook became PRB's director. He served as its director and president until his retirement in 1968, after which he continued work as a private consultant. He also lectured in genetics at George Washington University Medical School.

In the 1930s, Mr. Cook wrote about the dangers of overpopulation, one of the first analysts to do so. His 1951 book, *Human Fertility: The Modern Dilemma,* called uncontrolled fertility as "ominous" a force as the atom bomb. In 1955, he was co-recipient of the prestigious Albert and Mary Lasker Foundation award for "outstanding contributions to wider understanding of the world population problem."

Rural families

Continued from page 7

will have an impact on their lives as they now begin to turn 30 and, indeed, for the rest of their lives.

There is another point to note as well. Commentators on the American scene often note that the mass culture of television and movies, our extensive highway system, and marketing of the same products all over the country have tended to smooth over regional and local differences. It is interesting to realize then, that rural young people differ measurably from their urban counterparts in something as fundamental as the timing of marriage and having children.

ADDENDA

Census methodology: another time, another place

The Rajah of Lombok suspected that government officials were withholding part of the head taxes, and he resolved to take a census, to check the number of people in his land. *But the difficulty was how to get this census. He could not go himself into every village and every house, and count all the people; and if he ordered it to be done by the regular officers they would quickly understand what it was for, and the census would be sure to agree exactly with the quantity of rice he got last year.*

So the Rajah told his officials that he had a vision of impending disaster. In this vision he was told to make twelve magic krisses (ceremonial knives), using needles collected from every village, one for each person living in that village. *And when any grievous disease appeared in any village, one of the sacred krisses should be sent there; and if every house in that village had sent the right number of needles, the disease would immediately cease; but if the number of needles sent had not been exact, the kris would have no virtue.* Before long the Rajah was able to ensure that the tax collections were full and correct. His census had fulfilled its objectives.

–*Terence H. Hull*

Italics indicate text from Alfred Russel Wallace, "Lombok: How the Rajah Took the Census," in *The Malay Archipelago*. London: Macmillan and Co., 1874.

POPULATION UPDATE

Estimated United States Population:

As of April 1, 1990	249,632,692[a]
As of April 1, 1989	247,072,000[b]

[a]Census figure that includes military and civilian employees and dependents overseas.
[b]PRB estimate based on 1990 census total and reported births, deaths, and immigration during the 1989-1990 period.

Estimated World Population:

As of February 1991	5,375,000,000
Annual growth	93,000,000

Extrapolation from the mid-1990 population on PRB's *1990 World Population Data Sheet*.

Latest Provisional Statistics for the U.S.: September 1990

	12 months ending with September					
	Number		Rate			
Item	1990	1989	1990	1989	1988	1987
Live births	4,145,000	3,981,000	16.6	16.1	15.9	15.6
Deaths	2,174,000	2,142,000	8.7	8.7	8.9	8.7
Natural increase	1,971,000	1,839,000	7.9	7.4	7.0	6.9
Marriages	2,435,000	2,393,000	9.7	9.7	9.7	10.0
Divorces	1,189,000	1,159,000	4.8	4.7	4.8	4.8
Infant deaths	38,500	38,800	9.3	9.8	10.0	10.0
Population base (in millions)	. . .	. . .	250.0	247.6	245.0	242.7

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.
Source. Monthly Vital Statistics Report (Vol. 39, No. 9) from the National Center for Health Statistics.

TAKE A NUMBER

Resident Population Change by State, 1980-1990

	U.S. resident population		Difference	
Region or state	1980 Census	1990 Census[a]	Number	Percent
UNITED STATES	**226,504,825**	**248,709,873**	**+22,205,048**	**+9.80**
NORTHEAST	**49,136,667**	**50,809,229**	**+1,672,562**	**+3.40**
Connecticut	3,107,576	3,287,116	+179,540	+5.78
Maine	1,124,660	1,227,928	+103,268	+9.18
Massachusetts	5,737,037	6,016,425	+279,388	+4.87
New Hampshire	920,610	1,109,252	+188,642	+20.49
New Jersey	7,364,158	7,730,188	+366,030	+4.97
New York	17,557,288	17,990,455	+433,167	+2.47
Pennsylvania	11,866,728	11,881,643	+14,915	+0.13
Rhode Island	947,154	1,003,464	+56,310	+5.95
Vermont	511.456	562,758	+51,302	+10.03
MIDWEST	**58,853,804**	**59,668,632**	**+814,828**	**+1.38**
Illinois	11,418,461	11,430,602	+12,141	+0.11
Indiana	5,490,179	5,544,159	+53,980	+0.98
Iowa	2,913,387	2,776,755	−136,632	−4.69
Kansas	2,363,208	2,477,574	+114,366	+4.84
Michigan	9,258,344	9,295,297	+36,953	+0.40
Minnesota	4,077,148	4,375,099	+297,951	+7.31
Missouri	4,917,444	5,117,073	+199,629	+4.06
Nebraska	1,570,006	1,578,385	+8,379	+0.53
North Dakota	652,695	638,800	−13,895	−2.13
Ohio	10,797,419	10,847,115	+49,696	+0.46
South Dakota	690,178	696,004	+5,826	+0.84
Wisconsin	4,705,335	4,891,769	+186,434	+3.96
SOUTH	**75,349,155**	**85,445,930**	**+10,096,775**	**+13.40**
Alabama	3,890,061	4,040,587	+150,526	+3.87
Arkansas	2,285,513	2,350,725	+65,212	+2.85
Delaware	595,225	666,168	+70,943	+11.92
Dist. of Columbia	637,651	606,900	−30,751	−4.82
Florida	9,739,992	12,937,926	+3,197,934	+32.83
Georgia	5,464,265	6,478,216	+1,013,951	+18.56
Kentucky	3,661,433	3,685,296	+23,863	+0.65
Louisiana	4,203,972	4,219,973	+16,001	+0.38
Maryland	4,216,446	4,781,468	+565,022	+13.40
Mississippi	2,520,638	2,573,216	+52,578	+2.09
North Carolina	5,874,429	6,628,637	+754,208	+12.84
Oklahoma	3,025,266	3,145,585	+120,319	+3.98
South Carolina	3,119,208	3,486,703	+367,495	+11.78
Tennessee	4,590,750	4,877,185	+286,435	+6.24
Texas	14,228,383	16,986,510	+2,758,127	+19.38
Virginia	5,346,279	6,187,358	+841,079	+15.73
West Virginia	1,949,644	1,793,477	−156,167	−8.01
WEST	**43,165,199**	**52,786,082**	**+9,620,883**	**+22.29**
Alaska	400,481	550,043	+149,562	+37.35
Arizona	2,717,866	3,665,228	+947,362	+34.86
California	23,668,562	29,760,021	+6,091,459	+25.74
Colorado	2,888,834	3,294,394	+405,560	+14.04
Hawaii	965,000	1,108,229	+143,229	+14.84
Idaho	943,935	1,006,749	+62,814	+6.65
Montana	786,690	799,065	+12,375	+1.57
Nevada	799,184	1,201,833	+402,649	+50.38
New Mexico	1,299,968	1,515,069	+215,101	+16.55
Oregon	2,632,663	2,842,321	+209,658	+7.96
Utah	1,461,037	1,722,850	+261,813	+17.92
Washington	4,130,163	4,866,692	+736,529	+17.83
Wyoming	470,816	453,588	−17,228	−3.66

[a] Count subject to possible adjustment by July 15, 1991.
Source. U.S. Bureau of the Census.

PRB/USAID Internship in International Programs

PRB is pleased to announce a one-year international internship as part of its Cooperative Agreement with the U.S. Agency for International Development (AID). The intern will work both on PRB's international projects and in the Policy and Evaluation Division of AID's Office of Population. This position provides an opportunity to help with the production and distribution of population materials for policymakers in less developed countries and to gain an overview of the various issues and organizations of concern to AID.

This year-long, full-time internship starts in June or July and pays an annual salary of $18,000-$22,000, depending on academic background and experience.

The intern will work six months at PRB and six months at AID. In previous years, interns have researched successful family planning models, prepared background material to aid in policy formulation, helped gather materials for country-specific population policy files, and performed many other tasks.

Recent graduates at the BA or MA level are eligible. Some population or public-health related course work and some language skills, particularly French or Spanish, are preferred.

Applicants should send a letter describing their completed academic studies, their interest in the field of population, and any relevant international work. Two letters of recommendation from instructors should be sent separately.

The deadline for application is April 1, 1991. The decision will be made by May 1 and notification sent by mail. Send applications to:

International Programs Internship
Population Reference Bureau
1875 Connecticut Avenue, N.W.
Suite 520
Washington, D.C. 20009.

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 1875 Connecticut Ave., N.W., Suite 520, Washington, D.C. 20009-5728.

SLAUGHTER OF THE INNOCENTS: Coercive Birth Control in China, by John S. Aird. Washington, D.C.: American Enterprise Institute for Public Policy, 1990. 196 pgs. $16.95. ISBN 0-8447303-8.

All demographers and social scientists interested in issues pertaining to China, or to family planning, or to both, should become familiar with the arguments in this controversial, polemical, and clearly adversarial book. Written by an esteemed population scholar and former senior research specialist on China at the U.S. Census Bureau, the book's first sentence exemplifies its orientation: "China's birth control program has earned a worldwide reputation as the most draconian since King Herod's slaughter of the innocents."

Aird argues that since the beginnings of China's major fertility reduction campaigns in the early 1970s, and especially since the start of the one-child campaign in 1979, family planning programs have been characterized by outright coercion. He sees these programs as yet another example of China's continuing disregard for human rights.

Aird urges that it is now "time for a careful review of the issue of human rights in family planning and a reconsideration of the 'population crisis' ideology which is undoubtedly part of the explanation for the tolerance that family planning advocates and other humanitarians have shown toward China's use of coercion in family planning." This point seems to be particularly meant to chastise those who disagree with his interpretation.

The core of the book is a review of birth control policy in China between 1949 and 1983. Many demographers may recognize sections from his earlier publications. Aird writes that China reached the peak of coercion in 1983, when various official circulars were marked by hard-line statements such as "propaganda month activities must be carried out solidly and stress must be put on practical results," and "women of childbearing age with one child must be fitted with IUDs."

But party documents in 1984 sent "confusing signals," Aird says. First, there was a call for the moderation of family planning tactics, while continuing to require the same target (1.2 billion population in the year 2000) as in 1983. A clarification followed, writes Aird, stating that the "wishes of the masses must not be allowed to deter family planning work" because of the pressures of "grim reality."

Aird presents a top-down, "cycles-of-coercion" model of family planning in China, in which the central authorities force an unpopular birth control policy upon an unwilling populace until the opposition becomes so strong that a relaxation of the policy occurs. This relaxation, however, leads to an unallowable number of births and then, cyclically, to another wave of coercion.

Aird's approach has been criticized by demographer Susan Greenhalgh (see "The Evolution of the One-Child Policy in Shaanxi Province, 1979-88," Working Paper No. 5, Population Council, 1989). As she sees it, the mandates of an unpopular policy relax over time and the mechanisms for enforcing the regulations become weakened, resulting in a more moderate *de facto* policy. She sees cadres at the local level as having considerable influence in developing as well as enforcing fertility policies. She also faults Aird for an over-reliance on policy statements, rather than tempering them with evidence of how the policies are actually implemented.

I urge those who read the Aird book to also read Greenhalgh's work, which, in many ways is a more balanced and politically astute perspective. Aird's book should be read, however, if only to be aware of its arguments and implications.

—Dudley L. Poston, Jr.
Department of Rural Sociology
Cornell University

POPULATION POLICY, CONTEMPORARY ISSUES, edited by Godfrey Roberts. New York: Praeger Publishers, 1990. 216 pgs. $42.95. ISBN 0-275-93039-4.

This rich collection of papers thoughtfully discusses the development of population policy in the last two decades, particularly in the less developed countries. Topics include the interactions among legal issues, human rights, and population policy; ethical issues of population control; and the population "establishment" in the United States.

More than half of the volume is devoted to country studies, which explore the range of programs that countries have used to moderate their population growth. Many of the essays focus on Asia, which has been most active in the development and implementation of population policy. But the book provides a geographic balance by analyzing the experiences of Brazil, Mexico, Colombia, and African nations. Concluding chapters assess the roles of the World Bank and United Nations in shaping population policy among less developed countries.

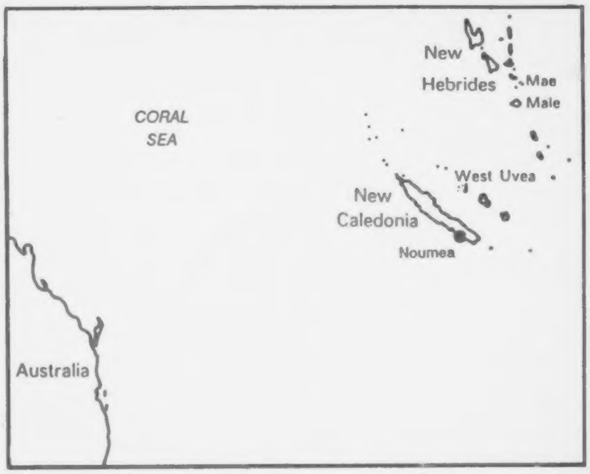
—Nazy Roudi

SPOTLIGHT

NEW CALEDONIA

Population (1989 census): 164,200
Land Area: 19,103 sq. km.
Population Density: 8.5 persons/sq. km.
Births per 1,000 Population: 23.7
Deaths per 1,000 Population: 5.9
Rate of Natural Increase: 1.8 percent
Total Fertility Rate: 2.9
Infant Mortality Rate (reported): 11 deaths per 1,000 live births
Life Expectancy at Birth: 70.4 years
GNP per Capita: $10,134
Main Town: Noumea

by Jean Louis Rallu



Despite its isolated location, lying off the east coast of Australia in the South Pacific, this French overseas territory has been a country of immigration since the mid-19th century. As a result, native Melanesians make up less than half (45 percent) of the total population. Migrants to New Caledonia include: French (34 percent of the population, of which more than half were born in New Caledonia), Wallis Islanders (9 percent), Tahitians (3 percent), Indonesians (4 percent), and Vietnamese and other (5 percent).

The country is mountainous with a tropical climate. In many respects, New Caledonia is a highly developed country, with a per capita GNP that falls between that of New Zealand and Australia. Nickel mining and services make up three-fourths of the GNP. Nonetheless, most native Melanesians live primarily from subsistence farming and experience severe underemployment.

Almost all the population speaks and writes French. Nearly all primary school-age children and more than half of youth age 10-19 attend school.

About 60 percent of all residents live in Greater Noumea, the main town. The urban population has been increasing rapidly at 2.3 percent each year since 1983. Yet despite sharp urban-rural differences, New Caledonia has succeeded in reducing fertility and infant mortality even in the countryside, while life expectancy at birth is the highest of the small islands of the South Pacific.

The fertility of the population as a whole declined from 3.3 lifetime births per woman in 1983 to 2.9 in 1989. Fertility rates differed, however, among population groups. In 1983 (the most recent year for birth and death data by ethnicity), the total fertility rate (TFR) of the Melanesians was 4.4 lifetime births per woman and probably fell below 4.0 in 1989. The fertility of Wallis Islanders (TFR=3.9) and Tahitians (TFR=2.6) is also declining rapidly.

The Europeans and Asians are aging populations while Oceanians are young populations. Of the country's total population 43 percent is under 20 years old, with 7 percent over 60 years old. The population over age 60 is expected to grow from 6.9 percent in 1989 to 11.6 percent by 2010.

Migration is a key, but inconstant, factor in population growth. Migration, which accounted for twice as much growth as did natural increase between 1968 and 1972, accounted for only half as much growth as natural increase in the 1976-1980 period. Between the 1983 and 1989 censuses, migration flows were slightly positive. If we assume a net balance between immigration and emigration, population growth would reach 199,000 inhabitants in the year 2000, and 228,000 in 2010.

Jean Louis Rallu is research associate at L'Institut national d'études démographiques in Paris.

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POPULATION TODAY

Vol. 19, No. 3 March 1991

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FROM THE EDITOR'S DESK

What is it that people *don't* understand about demography that they *should*? This Editor's Desk looks at some of the public's blind spots.

"People–and especially press people–need to remember that *numbers* matter–not just *rates*," says PRB's Tom Merrick. "Everyone thinks about rates of increase or decrease, rather than how many people are actually involved. This causes a lot of confusion. For example, in many countries, although the birth rate is going down, the number of children being born continues to go up–because the number of women of childbearing age is so big."

"People are way off the mark in their notion of the size of different minority groups in the United States," points out Bill O'Hare, former director of policy studies at PRB. "A poll in a recent issue of *American Demographics* showed that Americans think that African Americans form about 30 percent of the population and Hispanics about 20 percent. But the actual proportions are 12 percent for blacks and 8 percent for Hispanics."

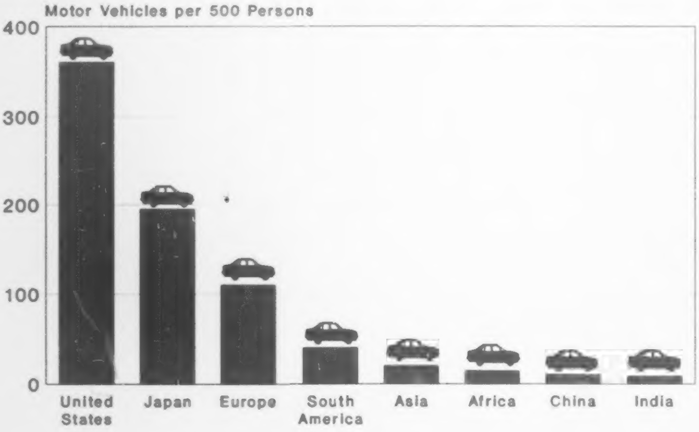
And, from conversations with my friends (who are generally a well-informed bunch) it appears that people seem to think that the world population will just keep growing forever. They haven't heard that demographers expect world population to peak about the middle of the coming century and then stabilize. This means that the nature of the population crisis of the next couple of decades will be determining the ultimate size of world population–whether it will be double or (gasp!) triple what it is today.

Next month–blind spots within the population community.

–Susan Kalish

SPEAKING GRAPHICALLY

Cars per Capita: New Demographic Indicator?



When the subject is population and environment links, counting cars is at least as important as counting people. The world's motor vehicle population is expected to double from today's 500 million to 1 billion early in the next century, according to the WRI report *Driving Forces*. In 1987, the United States, Japan, and Europe accounted for 69 percent of the world's total motor vehicle carbon dioxide emissions–a major cause of global warming–but emissions from other countries are increasing fast.

Source. Driving Forces: Motor Vehicle Trends and Their Implications for Global Warming, Energy Strategies, and Transportation Planning, by James J. MacKenzie, Washington, D.C.: World Resources Institute, 1990.

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* Educators and students should send supporting documentation

Recycled Paper

Iran Eases Limits on Sterilization

In a sharp turnaround from past policies, the government of Iran announced in November that it has legalized sterilization and will provide the surgery free upon request. Women who desire no more children will be encouraged to undergo tubal ligations, according to Deputy Health Minister Bijan Sadrizadeh, the *Iran Times* reported. A woman must already have three children and her husband's permission. The government will also distribute other types of contraceptives free of charge, Sadrizadeh said.

Lowering legal barriers to sterilization represents a big change for Iran since its Islamic Revolution in 1979. At that time, the Islamic government adopted a generally pronatalist policy, although the Islamic clergy remained somewhat supportive of family planning. Prior to 1979, under the Shah, the government of Iran responded to U.N. population policy inquiries by describing its population growth and fertility level as too high and stating it was adopting policies to lower fertility. But in response to the same inquiries in 1982 and 1986, the Islamic government described its level of fertility and population growth as satisfactory and did not want to adopt any intervention policies. After the 1979 Islamic Revolution, family planning programs were interrupted, the legal ages of marriage were lowered, and the social stigma as well as legal barriers against polygamy loosened.

Iran's population growth rate is currently one of the highest in the world—a 3.6 percent rate of natural increase per year in 1990, with a total fertility rate of 6.3 lifetime births per woman.

During the eight-year war between Iran and Iraq, Iran's policymakers generally saw the high birth rate as a strategic plus—replenishing the pool of young men from which soldiers could be drafted. With the end of the war in August 1988, the population explosion is increasingly recognized as a major obstacle to economic reconstruction.

John Felt

Sterilization is allowed with three children and husband's O.K..

In 1950 the population of Iran was 14.2 million, but it doubled to 28.4 million by 1970. In 1990 Iran, with 54.6 million people, ranked as the 20th largest country in the world. The U.N., in its 1990 world population assessment, projects that Iran's population will grow to over 100 million by 2020, at which time it will be the 14th largest country in the world. More than 8 million people now live in Tehran. They face a shortage of housing, double-shift public school sessions, severe traffic congestion, air pollution, and a very high cost of living. The recent surge of refugees from Kuwait and Iraq into Iran added to the country's population problem and increased the cost of living.

Climate for Change?

The recent legalization of sterilization is the latest sign of an increasingly favorable climate for policies for limiting population growth. In January 1989, the Islamic Consultative Assembly ratified a *National Birth Control Policy Summary,* detailing the First Five Year Economic, Social, and Cultural Development Plan for 1989 through 1993. This document set the goals of reducing the average number of lifetime births per woman to four children, slowing the annual natural growth rate to 2.3 percent by 2011, bringing 24 percent of reproductive-age women "under the cover of Family Planning Scheme by 1993," and preventing 1 million unwanted conceptions.

The policy document also advocates indirect measures to curb population growth, such as enhancing literacy, increasing school attendance for school-age girls, uplifting the status of women, improving health conditions, and decreasing maternal and child mortality. The Statistical Center of Iran is conducting a series of surveys to estimate age-specific fertility and mortality rates. The first survey round was carried out in June 1990, with three to five additional survey rounds to follow at six-month intervals.

A media campaign has been launched to promote population awareness and encourage small family size. One television show dramatized a conversation between an older and a younger woman on the pros and cons of smaller families—both for the families and for Iran as a country.

How successfully will Iran implement its plan? Dr. E.S. Ghorbani, a Tehran obstetrician and gynecologist, stated in the International Planned Parenthood Federation's journal, *People,* that although the climate is favorable, "no significant and lasting reduction is likely to take place." Obstacles such as women's low legal and social status, their educational and employment levels, and limited access to contraceptives would prevent much progress.

There may be some movement in these directions, however. M.R. Faghihi, director of Iran's Population and Manpower Planning Bureau, states in a later issue of *People:* "a revision of laws and regulations which conflict with the aims and objectives of population policy is under consideration."

Different Islamic countries vary in their attitudes and policies toward sterilization and other methods of modern contraception. Female sterilization is also legal in Turkey, Tunisia, Indonesia, Pakistan, and Bangladesh.

There was no policy change on abortion, which Iran permits only to save a woman's life. Illegal abortion, however, occurs frequently in Iran's larger cities.

—N.R.

PRB's *Population Bulletin,* "The Demography of Islamic Nations," by John R. Weeks, examines Islamic populations in the Middle East, Africa, Asia, and the Pacific. Cost: $8, with bulk order discounts available. Contact the Population Reference Bureau, 1875 Connecticut Avenue, N.W., Washington, D.C., 20009-5728, phone: 1-800-887-9881.

WASHINGTON WATCH

Last year, international population issues gained some momentum in Congess, but then got railroaded by the lengthy budget process. As this session begins, it seems a good bet that military activity in the Persian Gulf–while it lasts–will overshadow population issues in the House Foreign Affairs Committee and the Senate Foreign Relations Committee.

Good news for population advocates last fall was that total funding for international population assistance increased. In October, the Bush Administration and the House and Senate agreed to a $14.7 billion foreign aid bill for fiscal year 1991. They earmarked $250 million of the total to the international population assistance program (a $34 million increase from the previous year).

Several Congressional skirmishes were fought to restore U.S. funding for the United Nations Population Fund (UNFPA), halted since 1985. H.R. 403, introduced by Rep. Peter Kostmayer (D-PA), directly addressed the issue, calling for a U.S. appropriation of $500 million from the 1991 foreign aid bill for international population assistance, of which about $60 million would be contributed to UNFPA. A later proposal attempted to use UNFPA and the International Planned Parenthood Federation to channel $1.5 million for Romanian family planning. The funds were approved, but not those conduits.

On the Senate side, Senator Patrick Leahy (D-VT), chairman of the Foreign Operations Subcommittee of the Appropriations Committee attempted to include renewed funding for UNFPA in the 1991 foreign aid bill. But, under a threat of a filibuster and administration opposition, the provision was removed from the bill.

The foreign aid bill became a continuing battleground over the Mexico City policy (see *PT*, December 1990). That policy, in force since 1984, denies U.S. funds to foreign, nongovernmental family planning organizations that provide abortion-related services or information, even with their own private funds.

Last spring, in the House Foreign Affairs Committee, Rep. Kostmayer offered an amendment to the supplemental authorization bill that would have revoked the Mexico City policy. It won by a vote of 17 to 10 but did not pass the Appropriations Committee's markup.

On the Senate side, Senators Tim Wirth (D-CO) and Albert Gore (D-TN) tried again with their global warming legislation, also calling for a large increase, up to $500 million, for U.S. population assistance. The legislation never made it to a floor vote.

–Mark Haskell

Mark Haskell is the international program officer at the Population Resource Center.

Following the 1990 elections, several changes in the membership of the House Foreign Affairs Committee took place, some of them important to population issues. Rep. George Crockett (D-MI), Chair of the Africa Subcommittee, retired. Other departed members included: Reps. Lawrence J. Smith (D-FL–changed committees), Douglas Bosco (D-CA–defeated), Jamie Clark (D-NC–defeated), Michael DeWine (R-OH–retired), and Donald Lukens (R-OH–defeated). New members include Gerry Studds (D-MA), Austin Murphy (D-PA), Thomas Foglietta (D-PA), Thomas Sawyer (D-OH), Bill Orton (D-UT), and William Goodling (R-PA).

On the Senate Foreign Relations Committee, all the Democratic members are the same. Republican departures include Senators Gordon Humphrey (R-NH–retired), Connie Mack (R-FL–changed committees), and Rudy Boschwitz (R-MN–defeated). Two new Republicans will join the Committee, Senators Orrin Hatch (R-UT) and newly elected Hank Brown (R-CO).

Fertility Drops in Some Countries of Sub-Saharan Africa

For the first time, national fertility declines are being documented in Botswana, Kenya, and Zimbabwe–three countries of sub-Saharan Africa. High fertility combined with declining mortality had produced levels of population growth in the region that were among the highest ever recorded. Population policies and family planning programs in sub-Saharan Africa have tended to lag behind other regions due to low levels of socioeconomic development, traditional values that favor large families, poor service delivery infrastructure, and lack of information upon which to base population policies.

Currently, women in sub-Saharan Africa have an average of 6.4 children. Only an estimated 10 percent of couples use contraception.

Yet, recent surveys in African countries indicate a high potential demand for family planning. Substantial numbers of women not currently using contraception want no more children or want to space births. A 1989 Kenya survey found that 26 percent of currently married women interviewed wanted to wait at least two years before their next birth, and an additional 49 percent wanted no more children. Yet, only 27 percent of all married women were using any contraception.

The use of contraceptives is rising in the three countries surveyed. Between 1984 and 1988-1989, contraceptive prevalence (modern plus traditional methods) rose from 16 to 33 percent in Botswana, 17 to 27 percent in Kenya, and 38 to 43 percent in Zimbabwe. Lifetime births per woman dropped from 6.5 to 5.0 in Botswana, from 7.7 to 6.7 in Kenya, and from 6.7 to 5.3 in Zimbabwe.

During the 1980s, many sub-Saharan African countries began developing comprehensive national population policies and expanding family planning programs.

–Virginia H. Poole

Virginia H. Poole is a social science analyst in the United States Agency for International Development.

May Chosen As Visiting Scholar

John May has been chosen as PRB's 1991-92 visiting scholar. The Visiting Scholar Program, established in 1981 by the Andrew W. Mellon Foundation, provides a unique career-building opportunity for scholars while strengthening and diversifying PRB's research resources.

May will investigate the population crisis in the African state of Rwanda and related policy interventions. The study has several aims. First, it will reassess the paradigms of fertility transition and population/development relationships in a context of extremely high fertility, an AIDs epidemic, agricultural shortages, and environmental degradation–factors that affect several countries in sub-Saharan Africa.

The study will also analyze past, current, and possible future policy responses to these problems, including organized family planning interventions. May will assess whether policy responses designed for Rwanda would be appropriate in other sub-Saharan countries and examine how research on these questions can be communicated to policy audiences and used in the policy development process.

May currently is the program coordinator for francophone countries at the Futures Group in Washington, D.C. Before that, he served as training coordinator for the IUSSP in Liege, Belgium; and with the United Nations in New Caledonia and Haiti.

He holds advanced degrees in demography from the Catholic University of Louvain and is completing further work at the University of Paris.

May will replace Dr. Maria Concepcion J. Cruz, PRB's current visiting scholar, who has been examining the linkage between population change and environmental degradation, focusing on the institutional mechanisms that mediate the impact of population pressures on future sustainability of resources.

SURVEY REPORT

United States Contraceptive Prevalence

Surgical sterilization remains the leading method of contraception among women in the United States, the National Center for Health Statistics reports. Married women were particularly likely to choose sterilization. Results of the National Survey of Family Growth (NSFG), taken in 1988, show that 36.2 percent of married women 15-44 were contraceptively sterile in 1988, up from 29.5 percent in 1982, and just 16.4 percent in 1973.

Pill use, which was the most common method among married women in 1973 with 25.1 percent using it, dropped to a low of 13.4 in 1982. Since then, however, pill use has rebounded to 15.1 percent in the 1988 survey as many women abandoned IUD use.

Among U.S. women age 15-44–married and unmarried–60 percent were using contraception in 1988.

The 1988 NSFG is the most recent in a series of national fertility surveys conducted since 1955. The 1988 data also provide a first opportunity to compare changes over time for unmarried and married women (unmarried women were first included in the sample in 1982). Among never married women, condom use went from 4 to 8 percent between 1982 and 1988. During that period, among formerly married women, sterilization rose from 39 to 51 percent and condom use rose from 2 to 6 percent.

Among all women age 15-44 using contraception (married and unmarried) about 27 percent were sterile in 1988 (see table). An additional 12 percent had partners who had been sterilized. The increase in male sterilization from 1982 to 1988 was much less than that for females. The pill (31 percent) and the condom (15 percent) were the most common reversible methods. Among reversible methods, pill and condom use showed modest increases, while IUD, diaphragm, and foam use dropped rather sharply.

Popularity of Methods among Users of Contraceptives, 1988

Method	Percentage using method
Sterilization	39%
Woman sterile	27
Man sterile	12
Non-surgical contraceptive	61
Pill	31
Condom	15
Diaphragm	6
IUD	2
Foam	1
Other and traditional methods	6
TOTAL	100%

Note. Includes married and unmarried women in the United States, age 15-44, using contraceptives.
Source. National Survey of Family Growth, 1988 data.

About 34 percent of all U.S. women in this age group who were capable of conceiving children were not using contraception, including 12 percent who never had intercourse and 9 percent who were pregnant, postpartum, or seeking pregnancy.

Black women were more likely than whites to use female sterilization, and less likely to rely on male sterilization. Among white women, those with the least education were much more likely to rely on sterilization than those with the most education.

–*C.H.*

Copies of the National Center for Health Statistic's *Advance Data* series, which contain data and analyses of the NSFG, are available by calling (301) 436-8500.

DEMOGRAPHER'S PAGE

Infant Mortality: Who's Number One?

by Carl Haub and
Machiko Yanagishita

Few products of the statistician's art command as much attention from the media and the public as rankings. Be it the top 20 cities in population size or countries by per capita income, rankings are the stuff of pride when the news is good, or cause for alarm when it is not. But, while rates may appear to be straightforward measures, they often mask a host of nitty-gritty definitional issues that may cloud a seemingly clear comparison.

One ranking that receives much journalistic attention in the United States is how the nation's infant mortality rate compares to other countries. The subject is often quite sensitive because it addresses just how well a nation apparently cares for its youngest members. This topic has been covered in this space in the past, but on this occasion, we bring some additional considerations to the issue.

Suppose we wish to see just which country can claim the number one position for this measure–the country in which an infant is least likely to die. Infant mortality, of course, is a *concept,* one that considers the risk of death to infants. To measure the risk, however, we need some sort of *rate.* To obtain the infant mortality rate (IMR), the annual number of deaths to infants below age one is divided by the number of births in that year and multiplied by 1,000. For Finland in 1989: 367 infant deaths/63,388 live births x 1,000 = 5.8 infant deaths per 1,000 live births.

Since we are comparing only the countries with the very lowest rates, our task is made easier by the overall high quality of the data. While the data are not perfect, they generally satisfy three main requirements: 1) complete reporting of births and deaths in a national vital statistics system; 2) close comparability of definition; and 3) timely reporting of the data. To this we might add a corollary– a sufficient number of events so that the rates do not oscillate capriciously. Iceland, with a population of only about 250,000 has as few as 15 infant deaths in a year, so that its rate is subject to sharp annual fluctuations. The Icelandic rate dropped from 6.2 in 1988 to 4.4 in 1989, an unrealistically large change over such a short period.

Table 1 shows infant mortality rates for the 25 countries with the lowest rates in the world. Never before have IMRs been so low in so many nations. About 20 countries have IMRs in the single digits. At this point, one might well wonder just how low the IMR can go. Japan was the first to reach 5.0 (in 1987) and then its rate continued to drop. While there will almost certainly be some infant deaths from unavoidable birth defects, contagious disease, or accidents, the Japanese rate may not have yet bottomed out. Other countries, however, have reported increases after reaching low levels. Switzerland, for example, rose to 7.3 after dropping to 6.8 in 1987, although these changes could be in part a function of small numbers, since Switzerland has less than one-tenth the number of infant deaths as does Japan.

Countries in Table 1 are ranked for 1987, the most recent year for which information is fully available, although a certain amount of reshuffling by rank has occurred since then. Since the countries' rates are typically declining, however, it would not be fair to compare IMRs of different years. The table includes the 25 countries with the lowest-ranking IMR in 1987 in which registration is complete and there were at least 50 infant deaths. "Complete" registration means that the countries report that

Table 1. Infant Mortality Rates, by Country, 1987 - 1989, Ranked for 1987

Rank in 1987	Country	Infant deaths per 1,000 live births 1987	1988	1989
1	Japan	5.0	4.8	4.4
2	Taiwan	5.3	6.1	6.0
3	Sweden	6.1	5.8	5.7
4	Finland	6.2	6.1	5.8
5	Switzerland	6.8	6.8	7.3
6	Canada	7.3	7.2	-
7	Hong Kong	7.4	7.4	-
7	Singapore	7.4	7.0	7.5
9	Netherlands	7.6	6.8	6.8
10	France	7.8	7.8	7.5
11	Ireland	7.9	9.2	-
12	Denmark	8.3	7.6	8.4
13	Norway	8.4	8.0	-
13	Germany (East + West)	8.4	7.6	7.4
15	Spain	9.0	-	-
16	United Kingdom	9.1	9.0	8.5
17	Belgium	9.4	9.2	-
18	Australia	9.8	9.2	7.7
18	Austria	9.8	8.1	8.3
18	Italy	9.8	9.5	8.9
21	New Zealand	10.0	10.8	10.2
22	United States	10.1	10.0	9.7
23	Israel	10.7	10.0	10.0
24	Trinidad and Tobago	11.4	-	-
25	Greece	11.7	11.0	-

Notes. Data from U.N. Statistical Office, *Population and Vital Statistics Report*, various issues and the *1988 Demographic Yearbook*; *Demographisches Jahrbuch Osterreichs, 1989* Central Statistical Office, Vienna, 1990; *Recent Demographic Developments in the Member States of the Council of Europe,* Council of Europe, Strasbourg, 1990; and by direct telephone contact with national sources. Countries with low IMRs not shown in the rankings due to a small number of cases include Iceland, Barbados, Netherlands Antilles, Brunei, the Channel Islands, the Faeroe Islands, Iceland, the Isle of Man, Liechtenstein, Luxembourg, Malta, Monaco, American Samoa, and Guam. (-) indicates data not available.

Carl Haub is director
and Machiko Yanagishita is research demographer
of the Information and Education Department at PRB

they register 90 percent or more of births and deaths to the U.N. Statistical Office. While that evaluation is not always accepted at face value by demographers, in the case of the countries in the table, there should be few difficulties. For Taiwan, which is not recognized by the U.N., the rates are the officially reported values. We also include Hong Kong and Singapore, although some exclude these "city states" as not geographically comparable to other nations.

At this point, we have gathered all the available published rates, arranged them by year, and determined as far as possible that the data are complete. But are the rates *comparable?* This is a very important point when we consider how very low these IMRs are and the rather small number of events upon which they sometimes are based. Sweden, for example, had 115,900 births in 1989, but only 700 infant deaths. Statistically, infant deaths are considered "rare events," for which small changes in the absolute numbers (for any reason) can dramatically affect rates.

In order for an infant death to be classified as such, the infant must have been born alive. For this reason, differences in the ways that countries define live births can affect infant mortality rates. Generally, as infant mortality decreases (as in the developed countries in Table 1), we would expect stillbirths to account for a larger share of mortality around the time of birth. The significance of the stillbirth-to-IMR comparison would be less in developing countries, where inadequate public health conditions and poor postnatal care account for most infant deaths. The World Health Organization (WHO) recommends that a birth be considered live if the newborn shows any *one* of the following signs of life: heart beat, breathing, umbilical cord pulsation, or voluntary muscle movement. If one of those occurs, the birth is live and, if the child dies in the first year, that is an infant death. The extent to which the WHO-recommended practice is carried out in the real world cannot be known; it can be assumed that some variation will exist among and even within countries.

Although there is a growing body of evidence that differences in the definition of infant death have moved closer to the standard recommended by WHO, some countries do not adhere strictly to the WHO guidelines for classifying live births versus stillbirths. Some countries may note deviations in their publications. France, for example, has often classified as stillbirths infants that die before their births are registered. The former East Germany required action of the heart *and* lungs, and the Soviet Union excludes infants less than 1,000 grams in weight, 35 centimeters in length, and less than 28 weeks gestation if they die within seven days of birth. Japan has long been known for its classification of some infant deaths as late fetal deaths (that is, stillbirths), although some observers believe steps have been taken to correct the situation. Any of these practices could make the IMR artifically low.

Let us first approach the problem by comparing the number of stillbirths and infant deaths in certain countries. Table 2 shows the reported number of births, stillbirths, and infant deaths for 1985, the most recent year for which data are easily obtainable.[1] For most countries, the ratio of stillbirths to infant deaths lies between 0.45 and 0.60.

Japan, which has the world's lowest infant mortality rate, also reports an unusually high number of stillbirths per infant deaths, 0.98, nearly one stillbirth per infant death. This ratio has been quite consistent in Japan, although it has dropped from about 1.2 since the 1960s. Does this represent a continuing misclassification of infant deaths as stillbirths?

Continued on next page

Table 2. How New Calculations of Risk of Death to Infants Would Change Rankings of Selected Countries (1985 data)

Infant mortality rate ranking	Country	IMR 1985 (1)	Live births (2)	Still-births (3)	Infant deaths (4)	Still-birth/ infant death ratio[a] (5)	Total risk[b] (6)	New rank (7)
1	Japan	5.5	1,431,577	7,762	7,899	0.98	10.9	3
2	Finland	6.3	62,796	241	396	0.61	10.1	1
3	Sweden	6.8	98,463	388	666	0.58	10.7	2
4	Switzerland	6.9	74,684	345	515	0.67	11.5	5
5	Hong Kong	7.5	76,126	295	572	0.52	11.3	4
6	Canada	7.9	375,727	1,629	2,982	0.55	12.2	6
6	Denmark	7.9	53,749	236	427	0.55	12.3	7
8	Netherlands	8.0	178,136	1,054	1,430	0.74	13.9	9
9	France	8.3	768,431	5,658	6,389	0.89	15.6	16
10	Norway	8.5	51,134	279	434	0.64	13.9	9
11	Ireland	8.9	62,175	516	552	0.93	17.0	19
11	Germany (West)	8.9	586,155	2,414	5,244	0.46	13.0	8
13	Singapore	9.3	42,484	227	394	0.58	14.5	11
14	United Kingdom	9.4	750,728	4,189	7,030	0.60	14.9	14
14	Belgium	9.4	114,030	764	1,073	0.71	16.0	18
16	Germany (East)	9.6	227,648	1,187	2,175	0.55	14.7	12
17	Australia	10.1	242,910	1,128	2,452	0.46	14.7	12
18	United States	10.6	3,760,561	18,703	40,030	0.47	15.5	15
19	New Zealand	10.8	51,798	254	560	0.45	15.6	16

Source: United Nations *Demographic Yearbook,* various issues. Note that countries cited are not exactly the same as for Table 1.

[a] Stillbirths divided by infant deaths.

[b] "Total infant mortality risk," a measure that includes risk of being stillborn (the sum of stillbirths plus infant deaths, divided by the sum of live births plus stillbirths, multiplied by 1,000).

Demographer's Page

Continued from previous page

In Japan, social and cultural customs do tend to favor the notion of recording an infant death as a stillbirth. The Family Registration System *(Koseki)* includes all the vital events, such as infant deaths, that occur in a family, but stillbirths are not included. Although times are changing, there is still a perception that the death of a child or infant would be an undesirable entry in the *Koseki*. Japanese officials contacted, however, denied that infant deaths being registered as stillbirths might be affecting these statistics. Thus, we cannot draw definitive conclusions. Nevertheless, the very high ratio of stillbirths to infant deaths (as well as other detailed data not shown) definitely raises some suspicion.[2]

In ranking countries, there is a fairly straightforward way to get around the possibility that some misclassification of infant deaths may be occurring. If we add stillbirths and infant deaths together, and divide by all births (live births plus stillbirths) a different measure results: a "total infant mortality rate" which includes the risk of being stillborn. This new measure, shown in column 6 of Table 2, renders stillbirth misclassification problems moot. When we then rank countries by the *total* risk to infants who come to term (column 7 of Table 2), some shifts occur. Finland captures the number one position and Japan drops to third. The United States, incidentally, picks up a few spots and rises to number 15.

This discussion illustrates, but by no means exhausts, the many problems that confront the analyst who sets out to set up a table of rankings on infant death or almost any subject. Other problems that do not show directly in the tables are that one year's rate for a country may differ from publication to publication, rates considered provisional (or final) may not be tagged as such, or reported rates may change subsequently without explanation.

Other factors doubtlessly affect international comparisons but are difficult to measure. A high abortion rate in a country may avert some high-risk pregnancies, thereby lowering ultimate infant mortality. The Netherlands has two series of IMRs, one using the infant's age at its last birthday and the other the age on December 31. In recent years, the Netherlands *Statistical Yearbook* has not consistently used either.

March of Dimes

Country comparisons on infant mortality: An emotional subject we should look at more critically.

While infant mortality rankings are dramatic and often receive extensive media play, such lists should be treated with caution. When rates are as low as they are in developed countries and the numbers are as small as they are for some countries, international comparisons may lose much of their meaning. The United States, for example, with its large population and 4 million-plus births has about 39,000 infant deaths each year. It becomes difficult to compare the U.S. rate to that of Finland when that latter country has only about 360 infant deaths. Even small definitional differences in Finland can have a large effect upon rates.

Changes in ranking are given significance when they are used to evaluate a country's performance or to guide public policy. In the United States, the fact that the country is not "number one" may be received with surprise. Not only that, the United States is about 20th on the list and, it is often pointed out, ranks behind some developing countries (actually, only Hong Kong and Singapore, which some would classify as newly industrialized countries).

We can look at infant mortality data in many different ways. For example, we are accustomed to using infant *mortality* rates. What if we viewed it from the other direction, infant *survival?* Then we would, for example, say that 995 out of 1,000 babies survive in Japan while 991 survive in the United Kingdom. Is that a significant difference?

We could say that infant mortality in the United States is "twice as high" as in Japan and that would be correct. Or, we could also say that a baby in the United States has essentially the same chance of surviving as one in Japan and that would also be correct. Or, we can translate rates back to actual numbers of infants affected and point out that, if the United States had the same low IMR in 1989 as Japan reported, about 22,000 of the reported 39,000 U.S. infant deaths would not have taken place.

All in all, it may be that our analyses of infant mortality should pay less attention to national rankings and focus more closely on causes of death and higher risk groups by poverty, ethnicity, and residence. Once again, we learn the same old lesson. While we want to make our point with statistics, we also need to mind their limitations.

Notes

1. Note that the countries listed are not exactly the same as for Table 1.
2. In response to inquiries, the director of vital statistics division of the Japanese Ministry of Health and Welfare stated that physicians and registered midwives are required by law to issue both a birth and death certificate for an infant dying shortly after birth, and that the law is strictly followed. Japanese obstetricians confirmed that the government closely monitored observance of recording procedures. Experts and obstricians contacted, however, did not rule out the possibility of such misclassification occurring in today's Japan, considering the very high ratio of stillbirths to infant deaths.

CONNECTIONS Teaching Kit Links Population and Environment

During the summer of 1990 five secondary geography teachers, all active in their state Geographic Alliance programs, joined the Population Reference Bureau staff in Washington, D.C. to assist in the development of a new package of teaching materials. These materials will provide secondary geography teachers with reading materials, lessons, and strategies to teach population and environmental issues in the context of sustainable development.

The lessons in the package are based on articles written by major journalists in developing countries on topics concerning the environment– articles produced by PRB's prize-winning *Global Edition* project. These articles open windows on the world, giving authentic regional or country perspectives, supplemented by a worldwide overview. The lessons will help develop students' concern for the environment, a sense of responsibility for its protection, awareness of the links between population and the environment, and the realization that they live in a "global village."

The package of materials will be ready for distribution in the spring of 1991 and will include: 1) a teacher's guide with about 25 lessons and resource lists; 2) a student resource book with readings on population and environmental issues in the world, Africa, Asia, Latin America, and selected countries within those regions; 3) a *World Population Data Sheet;* and 4) a *World Environment Data Sheet.*

The CONNECTIONS teaching package will initially be distributed through a series of workshops given by PRB and the teachers who participated in the development of the materials. States that have already reserved workshops

Continued on next page

SOFTWARE

Historical demographers take note. This data management system can help you put turn-of-the-century census data into useable shape.

The Texas Census Data System was developed by Myron Gutmann and Amy Holmes for the Program on Historical Demography and Community History at the University of Texas at Austin.The package was designed to simplify the use of the U.S. manuscript (microfilm) census returns for teaching and research. A group of students or a research team can work together sharing the tasks of data entry and data management for decennial census data from 1850 through 1910. The system works through a menu-driven system of data entry, management, and electronic mail (to allow the user team to share information). A sample data base is included, which contains 600 cases selected from the U.S. Manuscript Census for Gillespie County, Texas, 1860.

The program requires PC-DOS, MS-DOS 3.0 or higher, and either dBASE III Plus or Foxbase+; network implementations require the appropriate network software. We were not able to try out this dBASE program, but it comes with a 35-page booklet of readable documentation and suggestions for use. For more information, contact Wisc-Ware, University of Wisconsin-Madison, 1210 West Dayton Street, Madison, Wisc., 53706, (800) 543-3201.

–S.K.

POPULATION UPDATE

Estimated United States Population:

As of April 1, 1990	249,632,692[a]
As of April 1, 1989	247,072,000[b]

[a] Census figure that includes military and civilian employees and dependents overseas.

[b] PRB estimate based on 1990 census total and reported births, deaths, and immigration during the 1989-1990 period.

Estimated World Population:

As of March 1991	5,333,000,000
Annual growth	93,000,000

Extrapolation from the mid-1990 population on PRB's *1990 World Population Data Sheet.*

Latest Provisional Statistics for the U.S.: September 1990

	12 months ending with September					
	Number		Rate			
Item	1990	1989	990	1989	1988	1987
Live births	4,145,000	3,981,000	16.6	16.1	15.9	15.6
Deaths	2,174,000	2,142,000	8.7	8.7	8.9	8.7
Natural increase	1,971,000	1,839,000	7.9	7.4	7.0	6.9
Marriages	2,435,000	2,393,000	9.7	9.7	9.7	10.0
Divorces	1,189,000	1,159,000	4.8	4.7	4.8	4.8
Infant deaths	38,500	38,800	9.3	9.8	10.0	10.0
Population base (in millions)	. . .	. . .	250.0	247.6	245.0	242.7

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.

Source. Monthly Vital Statistics Report (Vol. 39, No. 9) from the National Center for Health Statistics.

PAA 60th Annual Meeting March 21-23

In the year after the Census, the Population Association of America traditionally meets in Washington, D.C. PAA's 60th annual meeting, March 21-23, 1991, is no exception. Experts in demography, population, family planning, and health will gather in the venerable Omni Shoreham Hotel at Calvert Street and Connecticut Avenue, less than a mile from the Population Reference Bureau's new quarters.

PT will be there, furiously scribbling notes, and will provide full coverage of the conference in its May issue.

This year, PRB wants your feedback on *PT* and other PRB publications. Please stop by the Population Reference Bureau display and fill out our Reader's Survey.

See you there....

For more information about the meeting, contact: PAA, 1722 N Street, N.W., Washington, D.C. 20036, (202) 429-0891.

Related conferences held just before PAA, also at the Omni Shorham:

- **Accessing Public Information,** March 18-21. Contact: APLIC-International, c/o William Barrows, Family Health International, P.O. Box 13950, Research Triangle Park, N.C. 27709.
- **Workshop on Psychosocial Factors in Population Change,** March 19-20. Contact: Laurie Krieger, PATH, 1990 M Street, N.W., Suite 700, Washington, D.C. 20036, (202) 822-0033.

Connections

Continued from previous page

for their Geographic Alliance programs include Wisconsin, New Hampshire, Minnesota, Missouri, Illinois, Michigan, Massachusetts, Hawaii, and Alabama.

–K.C.

For more information contact: Kimberly Crews, Director, CONNECTIONS Project, Population Reference Bureau, Inc., 1875 Connecticut Ave. N.W. Suite 520, Washington, D.C. 20009, (202) 483-1100.

TAKE A NUMBER

Censused cities: Population size and growth rankings are often a source of pride for cities and metro areas. Just-released data from the 1990 Census provides fodder for bragging rights:

Population Size Top 13

City	Population
New York	7,322,564
Los Angeles	3,485,398
Chicago	2,783,726
Houston	1,630,553
Philadelphia	1,585,577
San Diego	1,110,549
Detroit	1,027,974
Dallas	1,006,877
Phoenix	983,403
San Antonio	935,933
San Jose	782,248
Indianapolis	741,952
Baltimore	736,014

Population Growth Top 10

City	Population	% Change 1980-1990
Mesa, Ariz.	288,091	89.0
Rancho Cucamonga, Calif.	101,409	83.5
Plano, Tex.	128,713	77.9
Irvine, Calif.	110,330	77.6
Escondido, Calif.	108,635	68.8
Oceanside, Calif.	128,398	67.4
Bakersfield, Calif.	174,820	65.5
Arlington, Tex.	261,721	63.5
Fresno, Calif.	354,202	62.9
Chula Vista, Calif.	135,163	61.0

Note: Cities of 100,000 or more population.

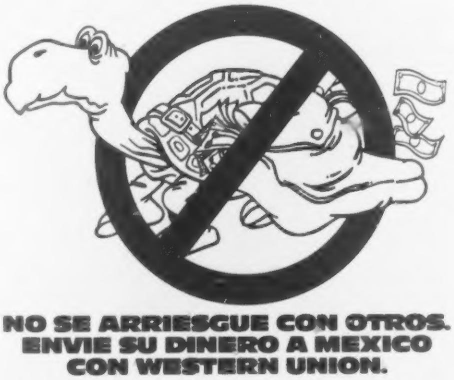
Surprised to see Houston as the fourth largest city? Remember that Western cities have fewer restrictions on annexing new land areas than Eastern cities. Philadelphia, for example, is a mere 136 square miles, while Houston is over 570 and growing from annexations.

And what about fast-growing Rancho Cucamonga–isn't that the town Jack Benny used to joke about on the radio? The cities that head the fastest-growing list are found in high-growth states and most had small population bases to begin with in 1980. The fastest-growing big city (1million or more population) was San Diego, also in California. Its 1990 count of 1,110,549 was a 26.8 percent increase over 1980.

–C.H.

ADDENDA

"No Turtles Allowed"


NO SE ARRIESGUE CON OTROS.
ENVIE SU DINERO A MEXICO
CON WESTERN UNION.

He's not a Teenage Mutant Ninja turtle, but this brand-X tortoise does represent a trend. Western Union apparently recognizes a market worth cultivating in the growing population of U.S. Hispanics with roots in Mexico. Translated, the headline reads: "Don't risk it with others. Send your money to Mexico with Western Union."

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 1875 Connecticut Ave., N.W., Suite 520, Washington, D.C. 20009-5728.

NATURE AGAINST US: The United States and the World Population Crisis, 1965-1980, by Peter J. Donaldson. Chapel Hill, N.C.: University of North Carolina Press, 1990. 207 pages. $31.45, hardback. ISBN 0-8078-1905-0.

As long as there has been birth control, there have been critics of deliberate attempts to limit fertility; these critics have often said that birth control is against nature. Donaldson, in choosing the title for this lively, important work, turns that around: "In the case of human reproduction, however, nature may be against us–in that the biology of human reproduction makes dangerously high fertility more likely than low levels of human reproduction." The book reviews U.S. policy toward "dangerously high fertility" from the initiation of U.S. foreign aid efforts in the population arena in the 1960s until 1980.

This book is of special interest to those of us who have traveled overseas with U.S. Agency for International Development (A.I.D.) funds to work with foreign governments on their population policies. Its interest for the general population reader may be more limited, particularly because of the brevity of the chapters that attempt to put U.S. policy in a global perspective.

In this rather personal work, Donaldson makes use of a variety of sources: face-to-face interviews; archives at the Population Council and A.I.D.; anonymous gifts of correspondence files, memos, and reports; and his personal experiences in Thailand and Korea.

Public health specialists and social scientists have always had somewhat different viewpoints on what it takes to bring about reduced fertility, writes Donaldson. Health specialists approach it as a technical issue–the need for family planning clinics, service providers, and commodities, all of which can be "easily" supplied with enough resources. Social scientists assess fertility change as part of a subtle complex process, not easily amenable to a technical fix.

U.S. policy was initially carried out by a public health specialist, Reimert Ravenholt. The book pays a great deal of attention to the controversy during the Ravenholt era, even more interesting because his legacy–good and bad–still affects A.I.D.-funded population work.

While very much a critical assessment, the work ends on a positive note, quoting demographer Frank Notestein to summarize the course of U.S. population policy: "I don't think we did so damn bad."

–Nancy Yinger

UNDOCUMENTED MIGRATION TO THE UNITED STATES: IRCA and the Experience of the 1980s, edited by Frank D. Bean, Barry Edmonston, and Jeffrey S. Passel. The RAND Corporation and the Urban Institute, Washington, D.C.: Urban Institute Press, 1990. 271 pages. $38.75 hardback, $21.75 paper. ISBN 0-87766-490-0.

THE CAUTIOUS WELCOME: The Legalization Programs of the Immigration Reform and Control Act, by Susan Gonzalez Baker. The RAND Corporation and the Urban Institute, Washington, D.C.: Urban Institute Press, 1990. 195 pages. $36.75 hardback, $19.00 paper. ISBN 0-87766-494-3.

These two well-executed works come out of the combined efforts of the Rand Corporation and the Urban Institute, through the Ford Foundation's ongoing Program for Research on Immigration Policy. The books investigate the implementation and impact of the 1986 Immigration and Control Act (IRCA), including how the 1986 law may have influenced the provisions of the Immigration Reform Act of 1990. IRCA offered a one-time-only amnesty program to illegal aliens who had been in the United States since 1982 (with a separate program for agricultural workers). At the same time it moved to halt illegal immigration by stiffening employer sanctions and increasing the budgets of U.S. border patrols. Both books concentrate on the Mexican immigrants, since they make up such a large share of the illegal population.

The first book, *Undocumented Migration*, brings together nine essays that make critical use of a variety of new data to examine the impact of IRCA. The authors find that IRCA achieved its goal of reducing the flow of undocumented migrants into the United States, at least in the short term. However, much of this gain was achieved by changing the status of those already in the country.

In *The Cautious Welcome*, Susan Gonzalez Baker examines how IRCA's legalization program worked and its implications for the future. A two-year study in eight U.S. cities (Los Angeles, San Jose, San Antonio, El Paso, Houston, Chicago, New York, and Miami) found that the turnout for the legalization program was heaviest among those of Mexican and other Hispanic origin, who were aided by publicity materials in Spanish.

Advocacy groups played a crucial role, counseling individuals and working with INS (and sometimes filing class action lawsuits with the agency to keep the process moving). The special legalization program for agricultural workers did not work well, however, with widespread evidence of fraud.

–Susan Kalish

SPOTLIGHT

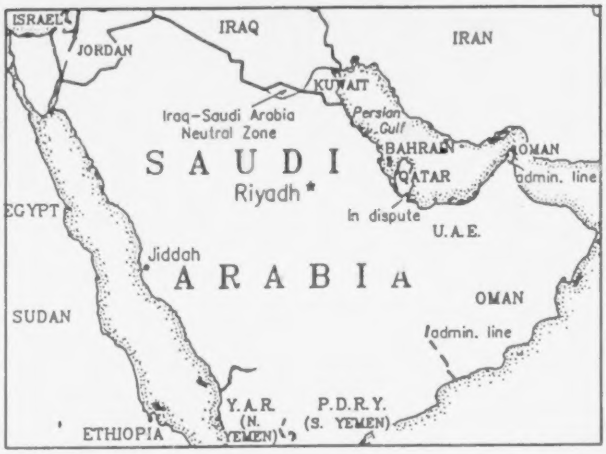
SAUDI ARABIA

Population (mid-1990 est.): 15 million
Land area: 830,000 sq. miles
Population density: 18 per sq. mile
Births per 1,000 pop.: 42
Deaths per 1,000 pop.: 8
Rate of natural increase: 3.4 percent
Total fertility rate: 7.2 children per woman
Infant mortality rate: 71 infant deaths per 1,000 live births
Life expectancy at birth: 63 years
GNP per capita: $6,170
Capital: Riyadh

by Alex de Sherbinin

Dominating the Arabian peninsula, Saudi Arabia is the 12th largest country in land area in the world. Saudi Arabia shares borders with seven Arab nations (including Jordan, Iraq, and Kuwait to the north). Its coastline extends for 1,560 miles along the Red Sea and Persian Gulf. The kingdom is ruled by the royal family led by King Fahd. About 85 percent of the population belongs to the Sunni sect of Islam; the remainder is Shi'ite.

The historic hearth of the country lies in mountain valleys bordering the Red Sea, where trade with Europe and North Africa led to early settlements–notably Mecca and Medina, the ancient cities sacred to Moslems. Between 1980 and 1990, the percentage of the population living in urban areas rose from just under half (49 percent) to more than three-fourths (77 percent). During that time, the population of the capital city, Riyadh, rose from 300,000 to 1.8 million. Much of the country is characterized by sparse settlement in oasis areas and scattered modern installations related to the oil trade along the coast of the Persian Gulf.



U.S. Department of State

Until the discovery of oil in 1938, Saudi Arabia evoked little more than story-book images of bands of desert sheiks to Western minds. Since that time, Saudi Arabia, with one-fourth of the world's known oil reserves (257.5 billion barrels), has emerged as a major player in the world economy. Exports of crude and refined oil make up approximately 90 percent of total exports, and accounted for some $22 billion in receipts in 1988.

Relying on substantial underground aquifers, Saudi Arabia's small and highly subsidized agricultural sector pursues self-sufficiency through large-scale irrigated wheat projects. However, if consumption continues to increase at its present rate of 10 percent a year, U.S. Department of Agriculture experts estimate that Saudi aquifers could run dry in 10 to 20 years, with serious implications for the country's water supply.

Using the windfall profits from oil, the government launched an ambitious course of modernization, investing large amounts in petro-chemical plants and other industries, and constructing highways, airports, schools, hospitals, and other infrastructure.

The government's stated policy is large-scale construction with future needs in mind. Considering the kingdom's extremely high population growth rate of 3.4 percent per year, there is good reason for careful planning. No official efforts have been made to bring down the total fertility rate of 7.2 lifetime births per woman. Responses to U.N. surveys indicate that the country limits the use of contraceptives and provides no support for family planning programs. Free education and health care, free land, and interest-free housing loans ease economic barriers to large families. As in much of the oil-rich Arab world, an implicitly pronatalist policy is seen as the shortest route to cutting down on the demand for foreign labor–and attendant foreign influences.

The Saudis's distrust of foreign–and particularly Western–ways has earned them a reputation as the most conservative country in the Arab world. Ancient restrictions on alcohol, dress, and women's roles are still enforced. Ironically, dependence on foreign labor is at least partly due to the extremely low labor-force participation rate among women, at just 4.5 percent.

Roughly 60 percent of Saudi Arabia's work force of 4,200,000 people are guest workers, including Egyptians, Jordanians, Yemenis, and South Asians. But given the kingdom's age structure–about half of its population is under age 15–it is likely that demand for foreign labor will fall in the future.

R8750-1

POPULATION TODAY

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Secretary of commerce Robert Mosbacher must now decide on the most contentious census question

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Bodes well for on-time availability of specialized analyses and data tapes

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Rates of violent crime rose in the 1980s, even in suburban areas

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There's no doubt that growth rates are falling; now the issues are how fast and how far

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8 Vietnam's first nationwide family planning survey
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Wendy Lim

Children from diverse Asian backgrounds paint a shared mural at the 1989 Asian Pacific American Heritage Council celebration in Washington, D.C. (see page 6).

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FROM THE EDITOR'S DESK

Every profession is subject to its own blind spots—things we should not lose sight of, but somehow tend to overlook, discount, or simply let slip while juggling a host of other considerations.

The very precision with which demographers deal with data may get in the way when it comes to communicating their findings to the general public or to policymakers, says Carol De Vita of PRB. "We are trained to calculate to the third or fourth decimal, but most policymakers generally need their information rounded to the whole number." PRB's Carl Haub agrees. "All our numbers are based on imperfect data, yet we often indulge ourselves in a sort of false precision and fondness for ever-more-rarified methodology."

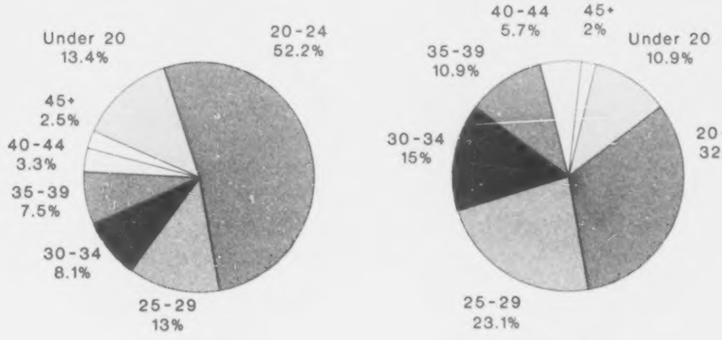
Yet, demographers may err also on the other side of the question. Instead of making too much of small differences, they pay too little attention to them. For example, an increase of 150,000 births one year might seem insignificant to the big picture, but a baby food manufacturer might get quite excited about it. The academic camp often holds applied demography at arm's length. Yet, De Vita points out, "the skills and techniques that go into business demography and other practical applications are very similar to academic demography. There really should be no distinction, and certainly no hierarchy."

As in other academic disciplines, demographers learn a specialized language, and then may lose sensitivity to how jargon and the common language diverge. For example, my sister was shocked to read that "fertility" was declining in several African countries; she interpreted this statement as meaning that women had become too ill to conceive. While demographers tend to snear at the 30-second news quip, we all need to strike a balance between technical overload and newsspeak.

—Susan Kalish

SPEAKING GRAPHICALLY

U.S. Military Shifts to Older Age Mix



1969 1989

Note. Percentages may not add to 100 due to rounding.
Sources. U.S. Army Center of Military History; Department of Defense.

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Recycled Paper

Census Adjustment: Down to the Wire

To adjust, or not to adjust.... That is the question facing Secretary of Commerce Robert Mosbacher as the Census Bureau readies its final 1990 counts.

The quandary raised its head in the earliest stages of planning for the 1990 Census, due to court challenges concerning alleged undercounts in the 1980 Census. No one expects a census to be perfect and count everyone, but serious problems arise when certain groups—such as city dwellers, poor people, or minorities—tend to be disproportionately undercounted. When this happens, undercounts may impair the one-person, one-vote rule for political representation and inject bias into government funding formulas (which follow census counts).

The issue is very political and highly sensitive. As Jeffrey Passel of the Urban Institute points out, "adjustment is a zero-sum game: there are winners and losers."

For example, Bill O'Hare, PRB's former director of policy, estimates that if the minority population of each state were adjusted upward by 5 percent, congressional seats would shift from Washington and Oklahoma to New York and New Jersey.

Anticipating an undercount in 1990, the city and state of New York went to court in 1988. A pre-trial settlement called for publication of guidelines on how an adjustment decision—if any—would be made. The guidelines were published in March 1990. The settlement also required the secretary to appoint an advisory committee. Four of the eight members would be recommended by the plaintiffs. Reflecting these litigious origins, the group was not charged with forming a consensus; each will send a separate recommendation. The secretary must make his decision by July 15, 1991.

On what evidence would the decision be based? There are two sources: the post-enumeration survey (PES) and demographic analysis of data from birth, death, and other independent records. Evaluations of the accuracy of these two independent sources will also be taken into account.

The PES is based on a "capture-recapture" model. For example, to count the number of fish in a lake, set out your net, tag all the fish you catch, and let them go. Then, set out your net a second time, and see how many tagged versus untagged fish you capture. Theoretically, these two "captures" may then be used to estimate the total number. (However, the two captures must be independent of each other and extraordinarily "wily trout" will complicate the process.) The Census Bureau undertook the PES in the months following the census last year, visiting a stratified sample of about 5,000 "block clusters," which averaged 30 housing units each. Individuals in the PES sample were then "matched" to persons in the census. The results of the census and PES are then used to estimate any "coverage errors" (undercounts or overcounts).

Adjustment—if carried out—would entail multiplying each census block by a complicated set of factors that account for 1,392 population groups.

Nifty Tool or Political Pitfall?

Kirk Wolter, an A.C. Nielsen statistician who serves on the Adjustment Advisory Committee, told *PT:* "Adjustment would be a major innovation in census-taking for our country. Other countries have improved their censuses this way, including the Australians, Canadians, and the English."

But, few countries take the trouble to estimate their undercount, let alone debate whether to correct for it.

On February 21, Rep. Tom Sawyer (D-OH), chair of the House Subcommittee on Census and Population, asked several statistical experts to testify on the potential for error in all the census components. In the sunlit, carpeted House chamber that morning, the mood of most participants seemed to favor viewing statistical adjustment as just one additional tool—one that would complement the primary data-gathering efforts of the census. These were experts, however, for whom, as Stephen Fienberg of the Carnegie Mellon University pointed out, such terms as *significant, power, random, unbiased,* and *error* have "precise technical meanings." In contrast, many fear that the public and the press might interpret adjustment as a sign that the census as a whole is flawed.

Most important, however, adjustment procedures are themselves subject to error or failure to satisfy critical assumptions. Therefore, adjusted counts may not meet Secretary of Commerce Mosbacher's predetermined criteria that adjusted counts be demonstrably more accurate than the raw counts.

—S.K.

1990 Census Products Ahead of Schedule

Ten years ago, analysts from the business world and academia alike eagerly awaited the release of specialized reports based on 1980 Census data. They waited...and waited...and waited. In fact, the biggest complaint from data users in the early 1980s was the unpredictable, frustrating, and ultimately expensive delays in getting census data products.

What a difference in the first few months of 1991! It looks as if the extensive automation carried out during the past decade has really paid off. The bureau delivered population counts to all 39,189 local government units by mid-January. The 10 states with the earliest deadlines had all received their redistricting data and maps by February 5, a month earlier than for the 1980 Census, and the bureau was three weeks ahead of its April 1 deadline in reporting race and ethnic information to all states. All this bodes well for as-scheduled availability of the specialized analyses and data tapes that data users need.

—S.K.

The Mean Streets Get Meaner: City and Suburb

As stories on the nightly television news dramatize, violent crime is on the increase in U.S. cities. Crime is also rising in the outer cities (that area within the metropolitan statistical area that falls outside the historic city limits), but it is rising more slowly. Therefore, the gap between inner city and outer city rates of violent crime is widening.

In 1989, the median rate of violent crime in the central cities of the country's largest MSAs (Metropolitan Statistical Areas of over 750,000 population) was 1,347 per 100,000 residents, an increase of 33 percent over the 1979 figure of 1,007 per 100,000 (see Table 1). The median crime rate for the outer cities of the same MSAs in 1989 was 386, up from 341 in 1979, an increase of just 14 percent.

As crime rates increase, more people are affected. In 1979, 25 percent of all central-city residents of MSAs lived within central cities with violent crime rates of more than 1,600. That proportion jumped to 43 percent by 1989. The percentage of urban Americans who lived in central cities with violent crime rates of 2,400 or more leaped from 1 percent in 1979 to 10 percent in 1989. During that time, the proportion of city-dwellers living in outer cities with violent crime rates of 1,200 or more stayed the same at 1.2 percent, but the proportion of those living in outer cities with violent crime rates of 400 or more rose from about one-third to almost one-half.

Why such a sharp increase in urban violent crime over the past decade? No one knows for sure. Some experts point to the increasingly youthful population of urban areas (with youthful populations typically more prone to violence), the widening gap between well-off and poor (with poorer urban communities typically more subject to violence), and to other factors, such as racial discrimination, drugs, lack of educational and job opportunities, or the use of more dangerous weapons to settle personal quarrels.

Another theory is that rapid population growth may be a contributing factor. Eight of the 10 worst outer cities

Continued on next page

Table 1. Rates of Violent Crime: Central Cities and Outer Cities, 1979-1989

	Central city			Outer city		
	1979	1989	Percentage change	1979	1989	Percentage change
Atlanta, GA	2,532	3,951	56	393	504	28
Newark, NJ	3,054	3,295	8	432	618	43
St. Louis, MO	2,131	3,121	46	342	386	13
Miami, FL	1,658	2,942	77	1,214	1,896	56
Chicago, IL	908	2,477	173	306	279	-9
Tampa-St. Peterburg, FL	1,222	2,452	101	523	647	24
Detroit, MI	1,670	2,401	44	421	420	0
New York, NY	1,863	2,300	23	241	333	38
Boston, MA	1,900	2,227	17	371	430	16
Los Angeles, CA	1,474	2,184	48	989	1,145	16
Washington, DC	1,608	2,142	33	437	451	3
Orlando, FL	1,420	2,087	47	786	789	0
Baltimore, MD	1,962	2,047	4	579	643	11
Charlotte, NC	857	1,961	129	423	431	2
New Orleans, LA	1,567	1,930	23	641	710	11
Portland, OR	1,121	1,891	69	459	234	-49
Kansas City, MO-KS	1,276	1,885	48	282	275	-2
Dallas-Ft. Worth, TX	1,239	1,746	41	264	370	40
Dayton, OH	1,612	1,613	0	340	363	7
Cleveland, OH	1,619	1,520	-6	267	193	-28
Riverside, CA	1,216	1,454	20	591	1,027	74
Birmingham, AL	1,154	1,446	25	250	508	103
Buffalo, NY	1,005	1,425	42	282	298	6
San Francisco-Oakland, CA	1,704	1,369	-20	484	593	23
West Palm Beach, FL	1,207	1,361	13	833	1,003	20
Richmond, VA	1,008	1,354	34	180	274	52
Fort Lauderdale, FL	752	1,340	78	723	879	22
Seattle, WA	931	1,337	44	306	260	-15
Minneapolis-St. Paul, MN	914	1,283	40	114	143	25
Memphis, TN	848	1,233	45	410	455	11
Pittsburg, PA	1,058	1,216	15	197	212	8
Indianapolis, IN	813	1,210	49	224	222	-1
Greensboro, NC	692	1,188	72	230	283	23
Houston, TX	878	1,140	30	358	430	20
Philadelphia, PA	822	1,093	33	354	365	3
Rochester, NY	1,128	1,077	-5	129	123	-5
Sacramento, CA	1,171	1,054	-10	548	518	-5
Columbus, OH	794	1,046	32	242	343	42
Nashville, TN	731	1,043	43	243	330	36
Oklahoma City, OK	1,000	997	-0	293	321	10
Cincinnati, OH	941	991	5	276	262	-5
San Diego, CA	655	921	41	507	620	22
Louisville, KY	784	907	16	219	277	26
Phoenix, AZ	808	900	11	521	385	-26
Anaheim, CA	615	798	30	379	397	5
Denver, CO	963	655	-32	290	489	69
Milwaukee, WI	471	710	51	118	134	14
Salt Lake City, UT	561	686	22	309	222	-28
San Jose, CA	535	598	12	305	356	17
Albany, NY	402	582	45	183	245	34
San Antonio, TX	493	553	12	283	417	47
Norfolk, VA	527	468	-11	413	463	12
Median	1,007	1,347	33	341	386	14

Notes. These figures cover incidents of murder, rape, robbery, and aggravated assault. A *violent crime rate of 2,500* means that *2,500 crimes occurred in a given area per 100,000 residents of that area, in a given year.* Outer city (suburban) rates were estimated by subtracting central city from total MSA figures. For Chicago, rape, was estimated for 1989; the 1979 figure is as reported.
Source. Uniform Crime Statistics, Federal Bureau of Investigation.

Crime

Continued from previous page

for violent crime are located in either Florida or California—two of the fastest-growing states during the 1980s. These MSAs may have incorporated low-income communities as they grew, or gentrification in the central city may have displaced low-income residents to suburban communities.

Brian Davis/FOX

The T.V. show "Cops" tells the story of urban crime by featuring real police officers, such as these members of the New Orleans force.

Inner City, Outer City

Even small numbers of violent crimes are undesirable, of course. However, we might characterize a violent crime rate of 1,500 or more as indicating a serious crime problem, and rates of higher than 2,000 as indicating a severe problem. In three central cities examined here, the 1989 crime rates were extremely severe, surpassing 3,000: Atlanta (a standout at 3,951 in 1989), Newark (3,295), and St. Louis (3,121). Ten central cities had rates between 2,000 and 3,000: Miami, Chicago, Tampa-St. Petersburg, Detroit, New York, Boston, Los Angeles, Washington, D.C., Orlando, and Baltimore. Seven central cities had rates between 1,500 and 2,000: Charlotte, New Orleans, Portland, Kansas City, Dallas-Fort Worth, Dayton, and Cleveland.

Only one outer-city area in 1989 ranked above the benchmark for a serious crime problem: the outer city of Miami, where the crime rate of 1,896 rivaled that of many central cities (see Table 2). Violent crime rates were high enough to be worrisome, however, in several other outer-city areas.

Life in the outer city of the typical MSA is still benign when compared with its central city. Nonetheless, four out of five of the MSAs listed here had seen increases in violent crime between 1979 and 1989. In 16 MSAs, violent crime rose faster in the outer city than in the central city. In San Francisco-Oakland, Denver, and Norfolk, central-city crime rates actually fell while outer-city rates increased.

—Morton Winsberg

Institute of Science and Public Affairs, Florida State University

Table 2. Outer Cities with the Most Severe Rates of Violent Crime, 1979 and 1989

	1979	1989	Percentage change
Miami, FL	1,214	1,896	56
Los Angeles, CA	989	1,145	16
Riverside, CA	591	1,027	74
West Palm Beach, FL	833	1,003	20
Fort Lauderdale, FL	723	879	22
Orlando, FL	786	789	0
New Orleans, LA	641	710	11
Tampa-St. Petersburg, FL	523	647	24
Baltimore, MD	579	643	11
San Diego, CA	507	620	22

Source. Uniform Criminal Statistics, Federal Bureau of Investigation.

Indonesian Growth Slowing

The 1990 Census of Indonesia, carried out in October, showed lower than expected rates of growth in this most populous country of Southeast Asia. The total 179,321,641, indicates the population grew 1.96 percent annually since 1980. Recent projections for 1990 had surpassed 180 million. The 1980 census, which found a growth rate of 2.3 percent a year, sparked controversies over the success of family planning and census methods.

The 1990 Census appears to vindicate intercensal and contraceptive prevelance surveys that showed declines in fertility and mortality, a picture that some demographers tended to discount during the 1980s. Controversy may yet emerge when fertility and mortality estimates are released this September. There is also some evidence of an urban undercount (see February 1991 *PT*).

The capital city of Jakarta, with just over 8 million, grew at 2.4 percent per year during the 1980s, down from 3.9 percent in the 1970s. Meanwhile, the surrounding regencies are exploding with the development of an international airport, light industry, universities, and housing complexes. Bekasi to the east and Tanggerang to the west grew 6 percent per year. Even the upland southern regency of Bogor grew at over 4 percent per year.

By contrast, some areas of Java grew very slowly and some regencies in the Special Region of Yogyakarta experienced population declines, due to declining fertility and outmigration. Among provinces where family planning was thought successful—such as Bali, East Java, and Central Java—growth rates fell below 1 percent. Other provinces in Sumatra and Suluwesi seem similarly headed downward.

There is no doubt that growth rates are falling. Now the issues are how fast and how far that decline will go.

—Terence H. Hull

Department of Political and Social Change, Australian National University.

DEMOGRAPHER'S PAGE

Studying the Pan Asian Community

by Juanita Tamayo Lott and Judy C. Felt

Traditionally, the study of Asian and Pacific Islander populations in the United States was confined to service providers and a few Asian-American specialists. But today, demographers, policy analysts, and even market researchers are becoming interested in this population because it is the most rapidly growing and quickly changing minority group in the United States. Sources of data and research projects into the nature and evolution of this group are now beginning to develop.

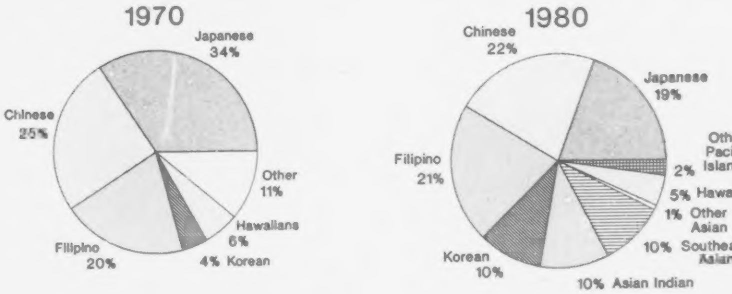
This population is extremely diverse, giving rise to the term "Pan Asian," which encompasses immigrants from Asian and Pacific Island countries and native-born citizens descended from those ethnic groups. No one ethnicity dominates, and new nationalities are being added to the mix. In 1970, detailed characteristics were available for only four Asian American groups and one Pacific Islander group (see Figure 1). By 1980, detailed characteristics were available for 12 Asian-American groups and six Pacific Islander groups. The 1990 Census will report general population characteristics for 17 Asian American groups and eight Pacific Islander populations.

The majority of Pan Asians born in the United States are descendants of pioneer immigrants of the 19th and early 20th centuries. This foreign-born population includes immigrants from the first half of the 20th century, as well as immigrants since 1965; refugees from Southeast Asian countries since 1975; and Amerasian children born before 1975. In 1980, about 58 percent of the Pan Asian populations were foreign born. This high proportion reflects continued heavy immigration flows from Asian countries. Some ethnic groups—such as Japanese Americans—are primarily U.S. born. The majority of Pacific Islanders are born American with U.S. citizenships such as Hawaiians, Guamanians, and Samoans.

Early Data Collection

Before the 1960s, the history of U.S. Asians and Pacific Islanders was the history of individual groups and their

Figure 1. The Changing Makeup of the Pan Asian Population, 1970-1980



Source. U.S. Bureau of the Census, *We, the Asian Americans* (Washington, D.C.: GPO, 1973) p. 2; and U.S. Bureau of the Census, *We, the Asian and Pacific Islander Americans* (Washington, D.C.: GPO, 1988) p. 2.

Sources of Data

Data Bases

- **Bureau of the Census.** *The Census of Population and Housing* for 1970, 1980, and 1990 provide data regarding the Asian and Pacific Island population, including data on subgroups. Public-use computer tapes are available, (301) 763-4100.
- **The Immigration and Naturalization Service.** Collects data on age, sex, marital status, type of entry visa, and country of origin (or of last residence) for immigrants and refugees. Some public-use computer tapes are available, (202) 376-3066.
- **National Center for Health Statistics.** Provides birth and death data by age, sex, and location. Began compiling data for some Asian and Pacific Island subgroups in 1968 with complete and comparable data by1978. Data available from NCHS, (301) 436-8500.
- **Equal Employment Opportunities Commission.** Data base includes legal cases involving Asian Americans. Data available from Surveys Office in a 1990 Census/EEO special file, (202) 663-4920.
- **Department of Education.** *Post-Secondary Enrollment File data file, Earned Degree data file,* and *Elementary and Secondary Enrollment data files* contain information on enrollment, special needs, and other characteristics of students. Data by state are available from Education Information Branch, (202) 219-1651. Data by institution or by school are available from the Office of Civil Rights, (202) 732-1616.

Surveys

The **Bureau of the Census** conducts several surveys that contain data for U.S. Asian and Pacific Islanders and some are listed below. The time period between surveys varies and most provide no subgroup data. Not all survey sample sizes are large enough to support analysis. Call (301) 763-4100. Surveys of most interest include:

- *The Current Population Survey (CPS).* This monthly survey measures labor trends, but each month it asks a different set of supplemental questions. The March surveys of 1989 and 1990 permitted national representative analysis for Asians and Pacific Islanders on many socioeconomic questions.
- *The Survey of Minority-Owned Business Enterprises.* Provides data on the number of Pan Asian-owned businesses in major metropolitan areas.
- *Survey of Income and Program Participation.* Contains financial and program participation information .

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at PRB

immigration status. While Filipinos settled in Louisiana as early as 1763,[1] Chinese immigration to San Francisco in 1848 marked the formal beginning of immigration from Asia. Due to restrictive immigration and citizenship policies beginning with the 1882 Chinese Exclusion Act,[2] the waves of different ethnic groups–Japanese, Filipinos, Koreans, and Asian Indians–that followed the Chinese were small. For almost a century, U.S. policies defined Pan Asian peoples as aliens and ineligible for citizenship regardless of length of residence. Only with the passage of the 1965 Immigration Act and subsequent immigration and refugee policies were quotas for Asian and Pacific peoples abolished.

Although the concepts, Asian American, Pacific/Asian and Pan Asian existed in the 1960s, the populations were numerically invisible. Data were perennially lacking, particularly by subgroups. The first census analysis of Asian Americans appeared in 1974.[3] In 1977, Circular A-46, the Office of Management and Budget established five racial/ethnic categories, including Asian/Pacific, to be used in federal statistical and administrative reports. For the 1980 Census, the Census Bureau created an Asian and Pacific American Advisory Committee and carried out the first national count of the U.S. Asian and Pacific Islander population.

U.S. Department of Health and Human Services

Asian families average more wage earners per household.

Size and Dynamism

The Pan Asian population in the United States has traditionally been small–both in terms of absolute numbers and proportion of the total population. Recent growth, however, has been phenomenal: the proportion of the total population increased from less than 1 percent to 2.9 percent between 1970 and 1990. In 1970, Asians and Pacific Islanders numbered 1.4 million. They more than doubled to 3.5 million by 1980, and doubled again to 7,274,000 million by 1990.[4]

Immigration accounted for three-quarters of the increase in the 1980s (see Figure 2). Immigration peaked at the beginning of the decade; for example, the population grew by 9.6 percent between 1980 and 1981, but

Continued on next page

Research Projects and Data Collection

- **Asian American Studies Center, UCLA.** Public Policies Program, (213) 825-2974. The **Reapportionment Analysis Project** provides data analysis for redistricting activites involving California's Asian Pacific population. The **Census Analysis Project** will analyze census data and provide projections of the Asian Pacific population in Los Angeles, California, and the nation for the years 2000 and 2010. Contact: Paul Ong or Tania Azores. The **Asian Pacific American Voter Registration Project** is undertaking longitudinal analysis of voter registration and political party affiliations of Asian Pacific Americans in California. Also investigating access and representation of Asian Pacific peoples in higher education. Contact: Don Nakanishi.
- **Asian American Health Forum, Data Development Project**, San Francisco, Calif., (415) 541-0866. Contact: Clarissa Tom or Tessie Guillermo. AAHF, in conjunction with Sonoma State University Foundation and Special Services for Groups, Inc., is establishing an **Asian and Pacific Islander Center for Census Information and Services** (ACCIS). Will analyze and disseminate data from census, NCHS, and other data sources.
- **The East-West Center, Population Institute,** Honolulu, Hawaii, (808) 944-7416. Contact: Bob Gardner or James Fawcett. Conducting a longitudinal socioeconomic and demographic study of 1986 immigrants from the Philippines and the Republic of Korea.
- **National Research Center on Asian American Mental Health, UCLA,** (213) 825-1775. Contact: David Takeuchi. The center has data sets on Asian American's use of mental health services, mental health, alcohol use, and substance abuse.
- **Asian American Studies, U.C. Berkeley,** (415) 642-2199. Contact: Amado Cabezas. Uses the Public Use Microdata Sample to analyze Asian Pacific American communities in selected states and SMSAs.
- **International Population Center, Sociology Department, San Diego State University,** (619) 594-2874. Contact: Ruben G. Rumbaut or John Weeks. Studies immigrant students in California public schools. Compiles data on Los Angeles and San Diego School districts and on infant mortality and reproductive outcomes among Indochinese refugees in San Diego County.
- **Asian/American Center, Queens College,** New York, (718) 670-4227. Contact: Ms. Hong Wu. Will use the 1990 Census to address Asian-American New Yorkers and redistricting, and analyze Asian communities in the New York metropolitan area.
- **Sociology Department, Texas Christian University,** Fort Worth, Tex., (817) 921-7470. Contact: Morrison Wong with Charles Hirschman (Sociology Department, University of Washington, Seattle). Studies educational and socioeconomic attainment using census data.
- **Department of Sociology, California State University, San Marcos.** Contact : William Liu; and **Graduate School of Public Health, San Diego University,** (619) 594-2711. Contact: Elena Yu. Have worked together on Asian and Asian-American research topics, some use of census and NCHS data.
- **Office of Refugee Resettlement, U.S. Department of Health and Human Services,** (202) 401-4568. Contact: Linda Gordon. Collects refugee data to facilitate local program delivery. Publishes some results in its *Annual Report to Congress.*
- **Russell Sage Foundation,** New York, will publish the 1980 Census Monograph Series for Asian Americans and Pacific Islanders in 1991 with some 1990 Census data included. Authors are Herbert Barringer (University of Hawaii, Honolulu), Robert Gardner (The East-West Center), and Michael Levin (U.S. Bureau of the Census), (202) 763-5134.

Demographer's Page

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only 5.5 percent between 1987 and 1988.

Shifting immigration flows have continually changed the mix of ethnic groups, and intermarriage also adds to the dynamism of this population. A number of even first-generation immigrants intermarry, both within and outside the Pan Asian community. For example, Asian women married American soldiers following World War II, the Korean War, and the Vietnam War. Second and subsequent generations intermarry more, at a rate of 17 percent (which is about the rate at which Hispanics intermarry).

Data from the March 1990 Current Population Survey provide a mixed picture of achievement. Although the overall educational level of Asian Americans is high, partly reflecting the selective immigration of better-educated Asian adults, statistics also reveal a large number who lack extensive education. In 1990, 20 percent of Asian Americans age 25 and over had less than a high school degree.

The average family income of Asian Americans ($35,900) is on a par with that of non-Hispanic whites ($35,000). Asians have achieved this seeming parity, however, by larger households with a greater-than-average number of workers. Furthermore, two disparate streams of Pan Asians exist: afflu-

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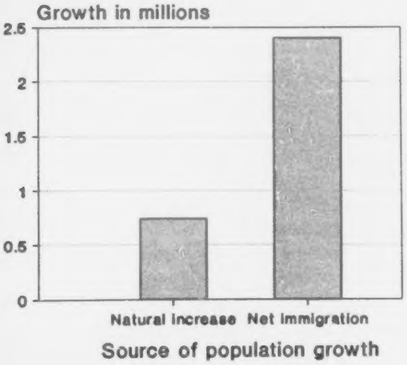
Figure 2. Natural Increase and Immigration of Asian Americans: 1980-1987



Source. Immigration and Naturalization Service and National Center for Health Statistics, various years.

SURVEY REPORT

Vietnam

The Socialist Republic of Vietnam conducted its first nationwide survey on fertility and family planning in 1988. The survey, funded by the United Nation's Population Fund (UNFPA) and carried out by the National Committee for Population and Family Planning, was based on the 1985 version of the Demographic and Health Survey (DHS) "Model A" questionnaire, but was adapted and shortened to fit local information needs. In particular, many health questions were dropped. The survey asked 72 questions, rather than the model's full quotient (190 questions).

U.S. Agency for International Development

Vietnamese women: They now marry later and want fewer children.

With more than 4,000 respondents, the survey indicates that a slow fertility decline, which began two decades ago, has continued in recent years. The total fertility rate–4.0 children per woman–is significantly lower than the 6.1 children ever born for currently married women at the end of their reproductive years. The survey also hints that the downward fertility trend is likely to continue: the average desired family size is 2.6 children.

Age at first marriage has also risen over the last two decades. The median age of marriage for 25-29 year olds is 21.3 years and for 45-49 year olds, 19.9 years.

Contraceptive awareness is high in Vietnam. About 94 percent of women could identify methods of family planning–primarily the IUD, the main method currently available in Vietnam. Contraceptive use is not as high: 63 percent of ever-married women had used contraception at some time, and 53 percent reported current use. The majority of current users (62 percent) use the IUD, followed by the traditional methods of withdrawal and rhythm (28 percent).

Differences in contraceptive use emerge between urban and rural women, women residing in the north and south, and women of different educational levels. Women in the northern part of the country are more likely to be practicing family planning (58 percent for the north and 47 percent for the south). Patterns of use are also different: women in the south using a method are more than twice as likely to be using a traditional one. Significant educational differences also appear: only about 29 percent of illiterate women report current use of any method, compared to 55 percent of women with a primary education.

Breastfeeding is very common and lasts on average 14.5 months, with only small differences by residence or socioeconomic level. Infant mortality in the five years before the survey was calculated to be 34 deaths per 1,000 live births, down from 40 per 1,000 during the 10 to 14 years before the survey. These are low estimates compared to other sources and may reflect underreporting.

-N.Y.

Demographer's Page

Continued from previous page

ent and poor. The poverty rate of Asian Americans (around 14 to 17 percent) has increased during the decade and is nearly twice that of non-Hispanic whites (8 percent). The Pan Asian proportion of the poverty population has also grown.

Outlook for the Future

The emerging portrait of U.S. Asian and Pacific Islanders is one of greater diversity and complexity than ever before. Great care must be taken to balance generalizations about the total population with exceptions for individual subgroups.

Intriguing demographic questions for the 1990s include: With continuous immigration, will an Asian-American identity endure? Or rather, with continued interracial unions, will Pan Asians evolve into a new group beyond race and ethnicity? Will Asian Americans maintain geographically based communities or disperse themselves? Will the Asian and Pacific Islander profile remain socioeconomically split?

References

1. Marina Espina, "Filipinos in New Orleans," *Proceedings of the Louisiana Academy of Sciences*, Vol. 37 (December 1975), pp. 117-121.
2. For a history of such policies, see *Recent Activities against Citizens and Residents of Asian Descent*, U.S. Commission on Civil Rights, Clearinghouse Publication no. 88; and Jeff H. Lesser, "Always Outsiders: Asians, Naturalization and the Supreme Court," *Amerasia Journal*, Vol. 12, No. 1 (1985-1986).
3. U.S. Department of Health, Education, and Welfare, *A Study of Selected Socio-Economic Characteristics of Ethnic Minorities Based on the 1970 Census, Volume II: Asian Americans*, HEW publication no. (OS) 75-121, 1974.
4. Unadjusted total from 1990 Census.

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PRB's new study, "Asian Americans: America's Fastest Growing Minority Group," by William P. O'Hare and Judy C. Felt, is now available as number 19 in the *Population Trends and Public Policy* series from the Population Reference Bureau, 1875 Connecticut Avenue, N.W., Suite 520, Washington, D.C. 20009-5728, 1-800-817-9881. Price: $5 per single copy, discounts for multiple orders.

SOFTWARE

The Spanish Surname Lookup Utility (SSLU) allows researchers, marketers, litigants, advocates, and others to use the list of some 12,000 Spanish surnames compiled by the Census Bureau to identify persons of probable Hispanic origin. Allan F. Abrahamse and Peter A. Morrison of the RAND corporation developed the utility. SSLU runs on any IBM-compatible PC.

Not all Spanish-surnamed persons are of Spanish origin. But the Bureau's list provides a consistent definition and a means of estimating the Hispanic segment of the population whose names are recorded. For example, it can provide a check on the number of Hispanics within a voting district, a specific criminal justice system, or a given market area.

The user tests each name by typing in each letter of the name. The program matches possible Hispanic surnames for that combination. For example, no Spanish name starts with "MC," so after typing the second letter of "MCLANAHAN," the list of possible matches empties.

SSLU neither reads nor writes machine-readable files. For users with large machine-readable lists, Abrahamse and Morrison have developed a substantially extended version that is available for a licensing fee. SSLU is free for the asking: send in a self-addressed diskette mailer. Contact Peter A. Morrison, Population Research Center, RAND, 1700 Main Street, Santa Monica, CA 90406.

–*S.K.*

POPULATION UPDATE

Estimated United States Population:

As of November 1, 1990	250,969,000
As of November 1, 1989	248,290,000

The above estimates, the first based on the 1990 Census, include armed forces overseas and are from U.S. Bureau of the Census *Current Population Reports*, Series P-25, No. 1068.

Estimated World Population:

As of April 1991	5,391,000,000
Annual growth	93,000,000

Extrapolation from the mid-1990 population on PRB's *1990 World Population Data Sheet*.

Latest Provisional Statistics for the U.S.: October 1990

	12 months ending with October					
	Number		Rate			
Item	1990	1989	1990	1989	1988	1987
Live births	4,157,000	3,992,000	16.6	16.1	15.9	15.7
Deaths	2,174,000	2,141,000	8.7	8.6	8.9	8.7
Natural increase	1,983,000	1,851,000	7.9	7.5	7.0	7.0
Marriages	2,451,000	2,384,000	9.8	9.6	9.7	10.0
Divorces	1,185,000	1,158,000	4.7	4.7	4.8	4.8
Infant deaths	38,400	38,800	9.2	9.8	10.0	9.9
Population base (in millions)	. . .	. . .	250.4	247.8	245.2	242.9

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.
Source. Monthly Vital Statistics Report (Vol. 39, No. 10) from the National Center for Health Statistics.

Minorities and Redistricting

On January 18, PRB held a day-long technical redistricting workshop to discuss the progress of minority, civil rights, and voting rights groups around the country preparing to use census data for redistricting. A similar workshop was held last October.

Census data is used to redraw boundaries for all election districts in the country–from the U.S. Congress to local school boards–in order to comply with the one person-one vote requirement mandated by the courts. Redistricting, which occurs after every census, is of special concern to minority groups who want to guard against the possibility of minority vote dilution (or racial gerrymandering) when the new voting districts are drawn up. In accordance with Public Law 94-171, the Census Bureau makes available redistricting data, giving population by age and race for all census geographic units down to the block level.

This year, the redistricting process will rely enormously on computers and new technology. Using the Census Bureau's TIGER files, the PL 94-171 data, and Geographic Information Systems software, boundaries of new election districts can be generated and changed by computers. Access to this new technology, a knowledge of the census data, and an understanding of the legal principles of redistricting will enable minority groups to participate more effectively in redistricting.

During the January workshop, representatives of various organizations compared notes on their progress in developing these technical capacities. Gerald Hebert, chief of the Voting Rights Section of the Civil Rights Division of the Justice Department discussed the department's role in evaluating redistricting plans for compliance with the Voting Rights Act and its amendments.

As a private, nonprofit, nonpartisan organization, PRB makes its technical expertise available, and facilitates communications exchange and information dissemination among many different minority groups and all political parties.

–T.M. and S.K.

TAKE A NUMBER

1990 Census: State Populations by Race and Hispanic Origin (in thousands)

	Resident population	White	Black	American Indian/ Eskimo/ Aleut	Asian American/ Pacific Islander	Other	Hispanic origin
UNITED STATES	**248,710**	**199,686**	**29,986**	**1,959**	**7,274**	**9,805**	**22,354**
Alabama	4,041	2,976	1,021	17	22	6	25
Alaska	550	415	22	86	20	7	18
Arizona	3,665	2963	111	204	55	333	688
Arkansas	2,351	1,945	374	13	13	7	20
California	29,760	20,524	2,209	242	2,846	3,939	7,688
Colorado	3,294	2,905	133	28	60	168	424
Connecticut	3,287	2,859	274	7	51	96	213
Delaware	666	535	112	2	9	8	16
Dist. of Columbia	607	180	400	1	11	15	33
Florida	12,938	10,749	1,760	36	154	238	1,574
Georgia	6,478	4,600	1,747	13	76	42	109
Hawaii	1,108	370	27	5	685	21	81
Idaho	1,007	950	3	14	9	30	53
Illinois	11,431	8,953	1,694	22	285	476	904
Indiana	5,544	5,021	432	13	38	41	99
Iowa	2,777	2,683	48	7	25	13	33
Kansas	2,478	2,232	143	22	32	49	94
Kentucky	3,685	3,392	263	6	18	7	22
Louisiana	4,220	2,839	1,299	19	41	22	93
Maine	1,228	1,208	5	6	7	2	7
Maryland	4,781	3,394	1,190	13	140	45	125
Massachusetts	6,016	5,405	300	12	143	155	288
Michigan	9,295	7,756	1,292	56	105	87	202
Minnesota	4,375	4,130	95	50	78	22	54
Mississippi	2,573	1,633	915	9	13	3	16
Missouri	5,117	4,486	548	20	41	22	62
Montana	799	741	2	48	4	4	12
Nebraska	1,578	1,481	57	12	12	16	37
Nevada	1,202	1,013	79	20	38	53	124
New Hampshire	1,109	1,087	7	2	9	3	11
New Jersey	7,730	6,130	1,037	15	273	275	740
New Mexico	1,515	1,146	30	134	14	190	579
New York	17,990	13,385	2,859	63	694	990	2,214
North Carolina	6,629	5,008	1,456	80	52	32	77
North Dakota	639	604	4	26	3	2	5
Ohio	10,847	9,522	1,155	20	91	59	140
Oklahoma	3,146	2,584	234	252	34	42	86
Oregon	2,842	2,637	46	38	69	52	113
Pennsylvania	11,882	10,520	1,090	15	137	119	232
Rhode Island	1,003	917	39	4	18	25	46
South Carolina	3,487	2,407	1,040	8	22	9	30
South Dakota	696	638	3	51	3	2	5
Tennessee	4,877	4,048	778	10	32	9	33
Texas	16,987	12,775	2,022	66	319	1,805	4,340
Utah	1,723	1,616	12	24	33	38	85
Vermont	563	555	2	2	3	1	4
Virginia	6,187	4,792	1,163	15	159	58	160
Washington	4,867	4,309	150	81	211	116	215
West Virginia	1,793	1,726	56	2	7	2	8
Wisconsin	4,892	4,513	245	39	54	42	93
Wyoming	454	427	4	9	3	11	26

Note. Individuals of Hispanic origin can be of any race.
Source. Department of Commerce press release CB91-100.

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 1875 Connecticut Ave., N.W., Suite 520, Washington, D.C. 20009-5728.

WOMEN, POVERTY, AND RESOURCES, by Poona Wignaraja. Sage Publications, India: New Delhi, 1990 (published for UNICEF). 241 pages. $26.00. ISBN 0-8039-9624-1.

Many Third World women suffer from the closely linked, double burdens of poverty and sex discrimination. Starting from this perspective, the author of this thought-provoking book offers readers a concrete approach to alleviating both burdens.

The key to success, according to the author, is to mobilize poor women around issues of common concern, primarily using local resources and knowledge. Many well-meaning projects, for instance small-loans programs, have continued to treat women as "objects" rather than "subjects" of development. They have therefore been doomed to failure.

On the other hand, projects that have raised the awareness of poor women to their own needs, rights, talents, and resources have succeeded, if only on a small scale. The author reviews, in detail, seven such projects in South Asia.

They range from the Grameen Bank in Bangladesh (now a public sector organization that began as village credit society after the 1971 war of independence) to the Production Credit for Rural Women in Nepal (a branch of the Ministry of Panchayat and Local Development), to Baldia Home Schools (an experimental project set up by the School of Social Welfare in Karachi).

The author identifies common threads that make these prcjects successful and ties them together into a new theoretical approach and methodology for participatory action research.

The volume also reviews, in less detail, projects in Africa and Latin America and offers advice for donors and international organizations on how to improve their input into efforts to help poor women. This book is a "must" for anyone interested in women status in the Third World.

—Nancy Yinger

HEALTH CARE OF WOMEN AND CHILDREN IN DEVELOPING COUNTRIES, by Helen M. Wallace and Kanti Giri. Oakland: Third Party Publishing Company, 1990. 587 pages. $20.00. ISBN 0-89914-031-9.

This collection of essays investigates the various social, economic, and biological factors that determine the standards of maternal and child health in developing countries.

The book covers every stage of the cycle: maternal health, infant and child health, adolescent health, and delivery of care to women and children. Together, the essays probe into the various causes of persistent poor maternal and child health in developing countries: lack of primary health care, poor nutrition, generally poor economic conditions, and lack of access to family planning.

These essays provide a wealth of data on fertility, infant, child and maternal mortality, and related topics. The book also describes maternal/child health projects being carried out by UNFPA, UNICEF, and the World Bank.

Since the papers explore all aspects of public health—from AIDS, to immunization, to the availability of trained birth attendants—the text is appropriate for students of public health and international development who will benefit from a multi-disciplinary approach.

—Minki Chatterji

DISABILITY STATISTICS COMPENDIUM, by the UN Department of International Economic and Social Affairs Statistical Office. New York: United Nations, 1990. 349 pages. $49.00.

The UN has just released the first international compendium of disability statistics. This reference work presents national statistics on disability from 55 countries. The information comes from the 1988 United Nations Disability Statistics Data Base (DISTAT, Version 1). DISTAT contains disability statistics from national household surveys, population censuses, and population or civil registration systems.

The DISTAT data base grew out of the 1982 World Programme of Action Concerning Disabled Persons. As part of that program, the UN worked with developing countries to gather data through population and housing censuses, sample surveys, and administrative reporting systems.

The volume explains issues in the international data collection effort, including the difficulty of making international comparisons of disability rates, given differences in methods for calculating incidence of disability. Tables provide data by country for such characteristics as age of disabled persons, sex, residence, educational attainment, economic activity, marital status, household characteristics, causes of impairment, and special aids used.

—Susan Kalish

Clarification:

In editing the review of Peter J. Donaldson's book, *Nature Against Us* (March 1991 *PT*), the word "critical" was added in the sense of "exercising or involving careful judgement or judicious evaluation," not in its more common meaning of "inclined to criticize severely and unfavorably" (*Webster's Ninth New Collegiate Dictionary*). We apologize for any confusion this ambiguity may have caused.

—S.K.

SPOTLIGHT

ISRAEL

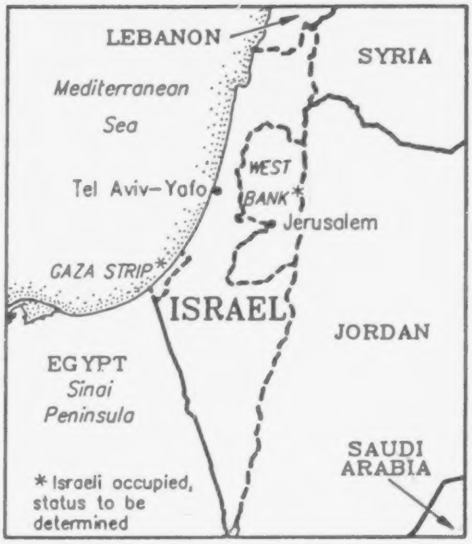
Population (mid-1990 est.): 4.6 million
Land area: 8,020 sq. miles
Population density: 572 per sq. mile
Births per 1,000 pop.: 23
Deaths per 1,000 pop.: 7
Rate of natural increase: 1.6 percent
Total fertility rate: 3.1 children per woman
Infant mortality rate: 10 infant deaths per 1,000 live births
Life expectancy at birth: 75 years
Capital: Jerusalem

by Alex de Sherbinin

There are few countries in the world where demographics mean as much to a state's existence as in Israel. Ever since its creation in 1948, the tiny Jewish state has sought to preserve its place and expand its numbers to counter the threat, real and perceived, of its Arab neighbors–Egypt to the south, Jordan and Syria to the east, and Lebanon to the north.

Israel's physical geography can be divided into four distinct regions. In the north are the hills of Galilee, which extend down from Lebanon. Just south is the country's breadbasket, the vale of Esdraelon–an area of lowland plains with relatively high rainfall. In the middle is an upland plateau, marked by a more desolate landscape and lower levels of precipitation. In the south, the mountains drop off into the largely uninhabited Negev desert, which comprises roughly half of the country's territory.

The population of Israel is concentrated along the Mediterranean, where roughly three-quarters of the population resides. The vast majority (90 percent) of the population lives in urban areas: 23 percent of the total population in the Tel Aviv area, 12 percent in the Haifa area, and 12 percent in the Jerusalem area.



U.S. Department of State

Israel's population policy expressly encouraged both higher fertility and immigration. Incentives to increase fertility include free medical services for pregnant women, one-time birth grants, child allowances, special allowances for third and higher parity children, and tax exemptions for working mothers. In addition, immigration laws guarantee the rights of any Jew to immigrate to Israel and to receive government assistance for settlement.

The recent wave of Soviet Jewish migration has in fact overwhelmed the country's ability to cope. Approximately 150,000 Soviet Jews migrated to Israel in 1990, and an estimated 400,000 were expected in 1991 prior to the onset of the war in the Persian Gulf. The influx has stirred the resentment of some long-term residents. There is already an acute shortage of housing and a scarcity of employment opportunities for professionals.

The unemployment rate rose from 6.2 in 1988 to 9 percent in 1989. The well-educated, largely professional Soviet Jews face the prospect of severe unemployment and underemployment. Already 27 percent of the Israeli labor force is in public service occupations, whereas 20 percent is in manufacturing and 13 percent work in the hard-hit hotel and restaurant business.

Paradoxically, as Israel attracts immigrants from Eastern Europe and the Soviet Union, it is losing many of its citizens to emigration due to fears about security and prospects for greater economic advancement in the West. Return migration to countries of origin apparently accounts for a large percentage of emigration.

Since 1967 Israel has controlled the West Bank and Gaza Strip, now known as the occupied territories. A concern of the Israeli government, as reflected in its pro-growth policies, has been the ethnic composition of Israel and the occupied territories. Currently Jews make up approximately 82 percent of the population of Israel proper, and 62 percent of the combined area of Israel plus the occupied territories. Arab birth rates are 1.75 times higher than birth rates among Jews. Even taking into account higher Arab infant mortality rates, the natural increase of the Arab population is still significantly higher.

Despite the emphasis on settling Jews in the occupied territories (including controversial efforts to place recently arrived Soviet Jews in the West Bank) the fact remains that about the same number of Palestinian Arabs live within Israel–primarily in Western Galilee–as reside in all of the West Bank. Arnon Soffer, a Haifa University geographer, has suggested that if attention is not paid to Israel's own Arab population, including granting of full civil rights, their growing numbers and continued disenfranchisement could lead to the growth of separatist tendencies within Israel.

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HAPPY
60TH
ANNIVERSARY

Ofer Sampson

PAA celebrates its sixth decade of demographic doings. (See pages 3 through 9.)

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FROM THE EDITOR'S DESK

Given widespread concern about an undercount, how should demographers answer questions about 1990 Census quality?

The general public and even academics or businesses who use census data may have the impression that the undercount is far worse than it is. As of this writing, the Census Bureau has not announced the results of the Post Enumeration Survey (PES)—an elaborate sampling effort that pinpoints specifically the whos and wheres of the undercount. However, it seems likely that the undercount will fall heavily among certain groups.

The undercount raises worrisome fairness issues for local political redistricting and some public funding allocations. Yet it also appears that the undercount will turn out to be quite selective in its effect: serious for minority males, but much less so for minority children and women; serious for the homeless, but less so for the urban poor who have housing; serious for the unemployed, but not for the elderly; a hindrance for estimating the size of the underclass, but not workers and students. And, business users will find that the census counted consumers in middle America very well.

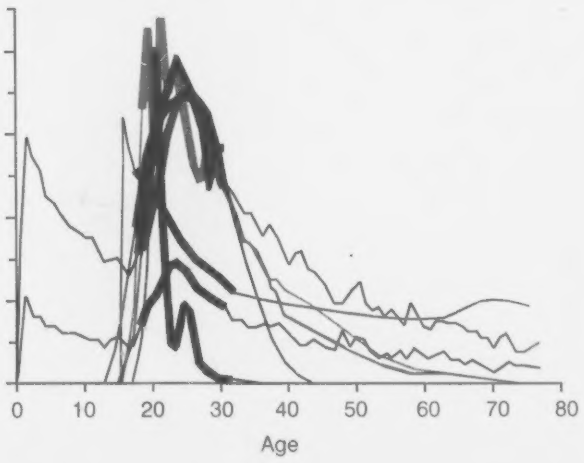
The PES gives us an exacting anatomy of the undercount, so demographers will be able to compensate for it with reasonable estimates for most programmatic purposes in national, state, and metro-wide areas. But for smaller areas—at the county or neighborhood level—there may be problems for programs aimed at groups that were undercounted.

Still, the 1990 Census will serve us well for the vast majority of research, business, and program purposes. There is nothing remotely comparable to it, and automation has made census data more available than ever.

—Susan Kalish

SPEAKING GRAPHICALLY

Young Adulthood is a Busy Time



No, don't even *try* to disentangle the lines of this graph.

During his presidential address at the 1991 PAA meeting, Ron Rindfuss used it to illustrate the "demographic density" of the young adult years, ages 18-30. This "everything graph" followed a series of separate graphs that showed young adulthood as a peak time for several demographic measures: fertility rates, first *and* second marriage rates, unemployment, transitions from school to work, and high residential mobility rates. (Warning: multiple vertical scales are overlaid on the graph.)

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PAA on the Potomac

On its 60th anniversary meeting, March 21 through 23, the Population Association of America swelled the ranks of the already sizable demographic enclave in Washington, D.C. Attendance was the largest ever—just one person shy of 1,400. PAAers gathered in the capacious Omni Shoreham Hotel, which stretches along the green slice that Rock Creek Park cuts through the northwest corridor of the city. Participants did what they do best—chat, network, and share their research. And, as always in years ending in "1," they chose Washington in order to touch base with U.S. Census Bureau officials on the decennial census.

Looking back, it is clear that the field of population studies has evolved beyond what it was six or even three decades ago. As PAA's 1990 president Ron Rindfuss commented: "Demographers have either become quite aggressive in enlarging the territory considered to be part of population studies, or they have become more realistic recognizing the complexity of human behavior. No matter how you cast it, there are numerous questions being examined by hard-core demographers at this year's meetings, which would have been inconceivable population topics for an earlier generation."

Rindfuss singled out such topics as caregiving, the sharing of tasks within the household, conjugal harmony, wage inequality, child rearing, inheritance, the empty nest, retirement, and sexual behavior. To this list one might add the debate over 1990 Census adjustment and links between population and the environment.

U.S. Trends

U.S. urban growth was spotty in the 1980s. William Frey (Univ. of Michigan) and Alden Speare (Brown Univ.) reported that the U.S. major metropolitan areas that grew substantially tended to cluster around financial and corporate headquarters with high-tech capabilities. Period factors (such as recession, baby-boom job sqeeze, retirement migration) were more likely to account for boom and bust in smaller metropolitan areas. Metropolitan areas on the Atlantic and Pacific coasts did better than those in the interior.

Ofer Sampson

Interest was high as Nathan Keyfitz profiled the reunited Germany.

Family trends. Major themes at this year's meetings were American families' responses to trends such as lower fertility, increased life expectancy, and higher women's labor force participation. These trends increase the lifespan of family groupings, while both enlarging their need and limiting their opportunities for sharing resources.

Alden Speare and Roger Avery (Brown Univ.) used the Survey of Income and Program Participation to analyze households in which older persons and their adult children live together. They found that several minority groups were more likely to share households than were non-Hispanic whites, and that the unmarried adult child under age 45 was more likely than the parent to be poor. Leora Lawton (Univ. of Southern California) reported that children of divorced parents are less likely to feel that children should help their parents, and divorced persons are less likely to feel that parents should help their children.

What levels of financial help are we talking about? Robert Schoeni (Univ. Michigan) used 1988 Panel Study of Income Dynamics data to show that 21 percent of U.S. families received monetary transfers from a living relative in 1987, at a mean amount of $2,100.

Halliman Winsborough and Larry Bumpass (Univ. of Wisconsin) looked at the "last third of life," heralded by the end of major care-giving responsibilities toward children and parents. The years of caring for elderly parents often extend from the death of the first parent to the death of the second parent. This period usually occurs about the time when the nest empties of children, as well. The last third of life then begins, occuring about five years from retirement and roughly 25 years before the onset of extreme old age.

The transition to adulthood continued to be an important research theme. Peter Tiemeyer (Univ. of Wisconsin) found that black and white young men take different paths to stable employment, with whites more likely to precede stable employment by combining school and work.

Jiang Hong Li (Louisiana State Univ.) reported that "retreat from marriage" may be exacerbated by changes in family background and experience. Using data from the National Survey of Families and Households, she found that a parents' divorce was more likely to decrease the likelihood of a daughter marrying than a son.

Using a new data set, the Stanford Child Custody project found that divorced parents cooperate in child-rearing more than earlier studies suggested. Elizabeth Peters and Laura Argys (Univ. of Colorado) and Eleanor Maccoby and Robert Mnookin (Stanford Univ.) noted some evidence of deadbeat fathers, but also strong evidence of cooperation between many divorced parents.

In the United States, young people set up their own households, not just by getting married, but by adopting different types of living arrangements (group quarters, living alone, living with other relatives) according to Arland Thornton, Linda Young-DeMarco (Univ. of Michigan), and Frances Goldscheider (Brown Univ.). Nor are the transitions only unidirectional, as

Continued on page 6

Poland, Abortion, and the Church

In May 1990, new regulations were imposed by the Polish Ministry of Health on the liberal abortion legislation passed over three decades ago in 1956.

A woman requesting an abortion is now required to present written approval from three physicians and a psychologist (selected from a state-approved list). A near total ban on abortion was approved by the upper house of parliament in September 1990 and now awaits a vote in the lower house.

Speaking to a group of Polish politicians in the Vatican after the senate vote, the Pope said that Poland's very morality depended on revoking the 1956 abortion law, which he deemed a "tragic inheritance" from the former communist regime. The impression is strong that the concept of women's rights is also associated with the ideology of the former regime. Also, a new Polish education law has mandated religion classes, which may put a particular "spin" on how family life is taught.

The new draft legislation changes the civil code, declaring that a fetus possesses legal identity. There are also changes in the penal code, setting prison sentences of up to two years for persons who perform a legally restricted abortion and up to five years for anyone who, through use of force or threats, causes an abortion to occur. Women who induce or cooperate in abortion will not be punished, however.

The practice of abortion is widespread in Poland, perhaps even more so than in the United States (when "private" procedures by Polish physicians are added to officially reported totals). A February 1991 national survey by the Polish Center for Public Opinion Studies (OBOP) showed that 58 percent of respondents are opposed to tightening access to legal abortion.

Nevertheless, the political clout of the Catholic church may carry the day in Parliament; some are pushing for immediate action as a present for the Pope on his home visit to his native Poland this summer.

In considering developments in Poland it is necessary to separate the official position of the church from its influence on individual behavior. While the Catholic church was respected as a bulwark of resistance during more than 40 years of communist rule, its pronouncements on many aspects of public life—and particularly its position on abortion—have aroused considerable controversy and concern. With the prevailing sense of freedom of choice among Polish Catholics, the church can never be certain it will automatically have the support of individual members. In an OBOP poll last November, 61 percent of respondents believed in separation of church and state. Only 13 percent of respondents held the view that "abortion ought to be conditionally forbidden," 5 percent had no opinion, 34 percent favored legal abortion on request, and an additional 48 percent supported legal abortion for varied criteria, including "low income and many children."

Catholic News Service

Pope John Paul II remembers the Holocaust on his 1987 visit to Poland.

In my non-representative mini-survey of five English-speaking women and five English-speaking men (approached at random in a Warsaw shopping center and a hotel this March), all described themselves as Catholic, opposed the proposed law, and preferred to leave the decision to the women coping with an unwanted pregnancy. Their views reflected a growing resentment of perceived church interference in the political process.

Health professionals expressed the view that it would be difficult to implement a strict anti-abortion law. The experience of Romania—where a stringent legal ban on abortion led to a high incidence of deaths from illegal abortion—is well known. Moreover, Poland lacks sexuality education and a consistent supply of modern contraceptives. Locally produced condoms are of low quality and imported contraceptives are expensive. Under these circumstances, withdrawal and the rhythm method continue to be the most popular methods of fertility regulation, backed by abortion.

Given the country's poor economic situation and overcrowded orphanages, the demand for abortion will probably grow. The price of a private abortion from qualified physicians will likely increase from half a month's wages to at least double that amount.

While the chances are slim, it is possible that opponents may be able to postpone the abortion vote until a new parliament is elected in October. As of this writing, the Parliamentary Commission on Abortion has agreed only on the first paragraph of the draft bill. Meanwhile, Polish women's groups are mounting a public campaign against certain church-promoted views: that abortions are caused by bad legislation, that changing legislation will decrease the number of unwanted pregnancies, and that, as a result, the morals of Polish society will be improved.

—Henry P. David

Henry P. David is Director of the Transnational Family Research Institute in Bethesda, Maryland.

Notes

These impressions are based on long-term observations of the Polish abortion situation, discussions with knowledgeable Polish colleagues during a March 1991 visit to the country, and the perceptive reports by J. Kurczewski in the English-language Warsaw weekly, *The Insider* (28 February 1991) and by G. Mrugala in *Planned Parenthood in Europe* Vol. 19, No. 3 (1991).

World Data Sheet Looks Beyond 2000

The just-released *1991 World Population Data Sheet* is the first recent edition that does not feature a projection for the year 2000. Instead, 2010 and 2025 will be shown, at least until the edition in 2001, that is. The year 2000, which once had a futuristic ring to many, is now just too close.

Projections for 2010 and 2025 clearly show that the current era of the fastest world population growth in history continues as new billions continue to be added. By 2010, world population should stand at 7.2 billion and, by 2025, 8.6. If longer-range projections prove correct, growth will eventually stop at about 11 billion.

The 1991 data sheet tallies 5.384 billion human beings inhabiting the globe. This figure is actually somewhat less than what would have been expected–5.414 billion–if we added the world's annual population increase (93 million) to last year's mid-1990 estimate of 5.321 billion. This apparent shortfall is due largely to the fact that a number of censuses came in lower than expected. India, Indonesia, and Mexico reported lower tallies than precensal estimates. While these estimates are too new for a full evaluation, they have had the effect of lowering the overall world total. In the future, higher estimates may be developed for these countries, particularly Mexico.

The overall world growth rate is down from the last edition, from 1.76 percent annually to 1.72. This change, of course, means that the rate shown on the data sheet now rounds to 1.7 rather than 1.8. In part, that change results from data for 1989 just received from India, which reported a lower birth rate than in previous years. We are now estimating a total fertility rate for Indian women of 3.9 children. It is something of a fertility milestone for India to drop below four lifetime births per woman.

The typical woman in the world will bear three or four children during her lifetime at present rates. The average is 3.4 children, which varies from 1.9 in the developed countries to 4.4 in the developing countries (not including China).

There have been more changes in the countries listed on the data sheet, which is based on data and estimates for 217 countries, or "geopolitical entities." The smallest of these is Pitcairn Island, where 52 descendants of Fletcher Christian and his fellow crew members of *Mutiny on the Bounty* fame still live. The largest, as all *PT* readers know, is China at 1.151 billion, over 22 million times Pitcairn's size. Although 217 countries figure in the data sheet, space limitations only allow us to show detailed information on 173 countries. These include all United Nations members and countries with a population of 150,000 or more. The Byelorussian and Ukraine Republics are not shown in addition to the USSR total, even though they are officially members of the UN. The picturesque Principality of Liechtenstein became a UN member in September of 1990 and is thereby shown on the wallchart. Along with St. Kitts-Nevis, it has a population less than 50,000; these are the only two which necessitate two decimal places.

Other changes include listing the West Bank separate from Jordan, the inclusion of East Timor in Indonesia, and the removal of the entity "Pacific Islands" from Oceania. These countries, the Federated States of Micronesia, the Marshall Islands, the Northern Marianas, and Palau now wish to have their statistics listed separately. As it happens, none has a population greater than 150,000. In the future, we may see the addition of Guam to the data sheet, since its population is now about 145,000.

This is the first data sheet to show a united Germany, thereby reducing the population size of Eastern Europe and raising that of Western Europe. The two Yemens also combined in 1990 and they are now listed as one.

–C.H.

Pre-PAA Meetings

Attendance at pre-PAA meetings added days to the Washington stay of many PAAers.

APLIC: Accessing public information was the theme of the 24th annual conference of the Association for Population/Family Planning Libraries & Information Centers, International (APLIC). The keynote speaker, Sandy Morton (Special Libraries Association) reported on the problems encountered in accessing government information, despite the provisions of the Freedom of Information Act and the Privacy Act. Doreen Goyer (Univ. of Texas) described successful information-gathering methods and the management of the Population Center Library's large international census collection. Jeff Standberg (Congressional Information Service) introduced CIS's new *Index to Health Information,* while Larry Carbaugh (Census Bureau) gave an update on the availability of 1990 Census products. Diane Oswald (National Planning Data Corporation) introduced MAXpress (consumer marketing information) and Jeanne Tift (USAID) described AID's Development Information Center.

Psychosocial Workshop: The 19th Annual Psychosocial Workshop, like its predecessors, took a pre-PAA look at population events from its own focus. Titles of presentations included "Beliefs about Condom Use Among Adolescents in Detention," "Understanding Clients' Attitudes and Interests Regarding Post-partum Contraception," "Male Attitudes on Family Planning," "Communicating Family Planning to LCD Policymakers," and "Only Children in China."

A lively discussion followed "A View from the Other Side," an Egyptian doctor's less-than-flattering portrait of U.S. consultants working in developing countries.

One session examined contraceptive failure theoretically (with statistical models) and actually (with data from the Demographic and Health surveys). Another explored the reasons that Australian women discontinue contraceptive use. Another model suggested that frequency of intercourse influences the choice of contraceptive and not vice-versa.

–Z.M. and E.M.

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PAA

Continued from page 3

Joyce Munsch (Texas Tech Univ.), Phyllis Moen, Donna Dempster-McClain, and Robin Williams, Jr. (Cornell Univ.) reported in assessing the role of mothers in the return of young adults to the parental home after their initial departure. Their case histories found that nearly 40 percent of "empty nests" were reoccupied at some point by a returning child.

Poverty. Mitchell Eggers and Douglas Massey (Univ. of Chicago) found some evidence for William J. Wilson's theory of a spacial mismatch between unemployed minorities living in the inner city and jobs located in the suburbs, but no support for Charles Murray's theory that higher welfare payments attract more migrants. Gregory Acs and Douglas Wissoker (Urban Institute) reported the economic vitality of different metropolitan areas made a difference in minority employment, whether the economic opportunities were in the central city or in outlying areas. They also found a "strong residual race effect" in difficulties in finding employment.

The rise in the number of single-parent households, which swelled family poverty rates, is the most important demographic trend in the United States in the last three decades, said discussant Greg Duncan (Univ. of Michigan) in a session chaired by Frank Furstenberg (Univ. of Pennsylvania). David Eggebeen and Daniel Lichter (Pennsylvania State Univ.) attributed half of the increase in child poverty rates since 1980 to the increased proportion of one-wage-earner female-headed households.

AIDS

Will the AIDS epidemic affect overall population growth? Peter Way and Karen Stanecki (Census Bureau) used the U.S. Department of State's Interagency Working Group model of the AIDS epidemic to make 25-year projections for sub-Saharan Africa. The overall infection levels increase from 1 percent in 1990 to around 8 percent in 2015. Urban life expectancy is reduced by 19 years; survival to age 45 in urban areas is less than half the level expected without AIDS. However, the effect of AIDS on the total population is moderate; annual population growth rates decline from 2.2 to 1.8 percent. In the United States, AIDS currently ranks third as the leading cause of death among black males under 65 and is predicted to move up to number one in 1992, reported John R. Wilmoth (Univ. of California–Berkeley).

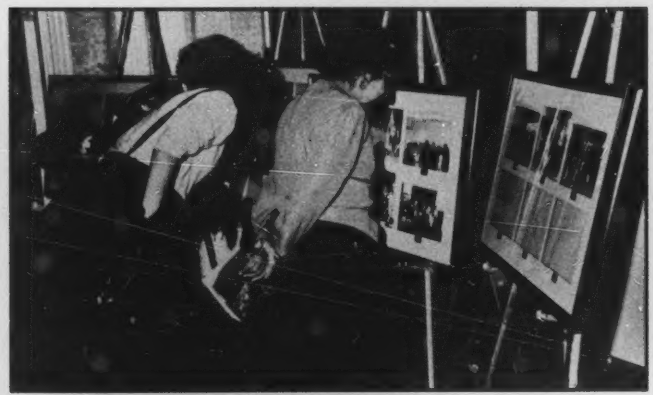
International Trends

"Most Europeans are remarkably placid about their remarkable demographic situation," considering the dramatically rapid aging of the population and impending population decline, commented James Vaupel (Univ. of Minnesota). Nathan Keyfitz (International Institute for Applied Systems Analysis) reported that aging will present challenges; birth rates are not likely to rise above replacement level, and immigration is likely to create new tensions. Eastern Europe presents a much more politically, ethnically, and demographically diverse picture, Elwood Carlson (Univ. of South Carolina) pointed out; some countries there have competing subpopulations with growth rates similar to Third World countries.

PRB, represented by Jacki Majewski, displayed its offerings to the demographic world *(left)*. Incoming PAA President Etienne van de Walle and Francine van de Walle chat with Jacques LeGare of the University of Montreal *(right)*. Conrad Taeuber was presented with the Robert J. Lapham award for outstanding contributions to the population profession *(above)*.

Sid Goldstein (Brown Univ.) cautioned against over-interpreting implications of new urban population data for China. Redefinition of urban areas added 137 cities, 8,443 towns, and 297 million urban residents to China's counts. Under these definitional changes the percentage of town residents engaged in agriculture went from 20 percent in 1982 to 58 percent in 1987. These changes in China would significantly shift the reported urban/rural composition of the world.

Oded Stark (Harvard Univ.) proposed that migration specialists should examine households, not individual migrants, as the unit of analysis in migration studies. Stark showed that migration allows a family to hedge its bets with remittances



TODAY'S
POPULATION
(AT NOON)
5 358 975 334
GUESS TOMORROW'S
POPULATION-
WINNER RECEIVES FREE
PRB MEMBERSHIP
USE ENTRY FORM PROVIDED

Conference participants were greeted by photo displays of former PAA officers *(left)*. Outgoing President Ron Rindfuss devoted his Friday evening address to the young adult population *(right)*. The Russell Sage Foundation came closest to guessing "tomorrow's population" –and won PRB's contest *(above)*. *All photos by Ofer Sampson.*

from absent members.

In a lively session on "Do Population Policies Matter?," Warren Robinson (Population Council) applied Berelson's "pathways" framework to assess the efforts of Thailand, India, and Kenya to reduce their rapid population growth rates. He argued that effective policies are ones backed by commitment to implement programs, whose chances for success are affected, in turn, by the sociocultural environment. Discussant John Sharpless (Univ. of Wisconsin-Madison) caused a stir with his skeptical challenge that "insiders" in the field need to provide stronger support for their conclusions about the impact of population policies.

Parker Mauldin and John Ross (Population Council) presented preliminary findings of an ongoing study comparing 100 countries on the strength of key elements of national family planning programs in 1989 and the relationship of program strength to contraceptive prevalence and fertility change. The average contraceptive prevalence rate was 69 percent among countries with strong program efforts. Terry Hull (Australian National Univ.) attributed Indonesia's family planning success in part to the availability of method-mix and support of various sources–USAID, UNFPA, the World Bank, the country's religious (particularly Moslem) leaders, and local political support. Linda Adair (Univ. of North Carolina-Chapel Hill) found that, in the Philippines, the longer a woman lactates, the lower her body weight–a finding with important implications for the promotion of breastfeeding.

Population and the Environment

This year, PAA responded to the renewed interest of the media, activists, and policymakers in connections between population and environmental degradation, by devoting back-to-back sessions on the theme. Papers provided interesting theoretical frameworks and cross-national comparisons, but little hard evidence about the impacts of population change on the environment. Carole Jolly (National Academy of Sciences) explained different approaches of classical and neoclassical economists, and dependency theorists, and discussed proximate cause frameworks, such as the one proposed by Paul Shaw (UNFPA).

Nathan Keyfitz (International Institute for Applied Systems Analysis) contributed a witty essay outlining seven ways to make the population problem "disappear": use rates when absolute numbers are important, cancel negative effects by offering some surprising positive outcome, remind people that land is no longer the main source of output growth, use cross-sectional data, declare small net "externalities" by giving low weight to future populations, disregard the physical setting in which economies work, and declare that bad policies are the "real" causes of problems.

Business and Applied Demography

Kenneth Johnson (Loyola Univ.) and Brenda Pierce-Johnson (Applied Demographic Research Group, Inc.) presented a regression model that helped identify expansion markets for a hotel chain. Peter Morrison (RAND Corp.) identified typical roles for a demographic consultant: helping to create strategic plans, advancing the client's internal agenda within the corporation, and shattering old stereotypes to change organizational culture.

In an evening panel discussion on what a redesigned census would mean for applied demographers, Kenneth Hodges (Donnelly Marketing Information Services) said that marketers want to move "beyond demography" into data on the detailed purchasing histories of individuals, as captured at the cash register. (Lotus, however, was recently pressured by privacy advocates into abandoning its high-profile MarketPlace consumer data base.)

Redrawing voting districts is a key application of demography. Peter Morrison (RAND Corp.) and William Clark (UCLA) explained how the application of legal rules–such as "one

Continued on next page

PAA

Continued from previous page

person-one vote," equal numbers of residents in each district, and representation of such "protected groups" as blacks and Hispanics–may conflict with one another. The *Garza* court case in multi-ethnic Los Angeles county added new complexities by including noncitizen (and thus, nonvoting) residents when defining districts of equal population.

The 1990 Census

In describing 1990 Census efforts, Peter Bounpane (Census Bureau) pointed to such success as technological advances, promotion efforts, and overall data quality management. William Butz (Census Bureau) described the intensive census evaluation efforts, which accounted for 6 to 8 percent of the overall $2.6 billion price tag. Eugene Ericksen (Temple Univ.) hinted that adjustment might improve the *differential* undercount–that is, the undercount of specific population groups, such as the poor and minorities. Unlike in 1980, the tools for adjustment are available now, said Kenneth Wachter (Univ. of California–Berkeley). He called the Post-Enumeration Survey "very well administered," but did not endorse adjustment. Both Ericksen and Wachter serve on the advisory group on adjustment, but no one in the panel would venture a prediction as to how Commerce Secretary Robert Mosbacher might decide the impending adjustment question.

Meanwhile, planning for year 2000 Census goes on, according to Robert Groves (Census Bureau). Options being talked about include answering the census by phone (with a choice of human or machine interviewer); a "post card" mail-back (backed up with samples on more detailed questions of income, quality of housing, or family relationships); and even more improvement to the TIGER maps.

Bureau of the Census Director Barbara Bryant gave a general overview of 1990 Census results during a Friday morning breakfast meeting.

Awards Night

Late Friday afternoon, PAA members streamed into the ballroom where a standing-room-only crowd watched the awards presentations and the presidential address. Eileen M. Crimmins (Univ. of Southern California) presented the Dorothy S. Thomas Award for the best graduate student paper to Deborah Cobb Clark (U.S. Dept. of Labor) for work done at the University of Michigan entitled "Migrant and Immigration Policy Selectivity: The Impact on the Wages of Married Foreign-Born Women." Karen Oppenheim Mason (East-West Population Center) awarded in absentia the Irene B. Taeuber Award to Otis Dudley Duncan in recognition of his outstanding accomplishments in demographic research. To a standing ovation, Douglas Massey (Univ. of Chicago) presented the prestigious Robert J. Lapham Award to Conrad Taeuber, a

PAA Sidelights

PAA marked its 60th anniversary with foil balloons, displays of group shots of officers back to 1967, and Jean van der Tak's computer quiz of PAA trivia.

Background on the most arresting question in the quiz: "Where were PAA women refused admission to the bar in the meeting's hotel?" The answer is: "Toronto, King Edward Hotel, 1972 meeting," but there is more to the story. As a result of the incident, PAA immediately passed a resolution never again to meet in a hotel that discriminated in any way. Then, a similar exclusion occurred the following year in the Monte Leone Hotel in New Orleans. This time, however, PAA women and their male allies responded with a protest action that gained media attention and forced a change of hotel policy.

PAAers found the weather not entirely cooperative–going from cloudy on Thursday to drizzle on Friday to rain on Saturday. However, magnolias and the famed Washington cherry blossoms waited outside the hotel for anyone who ventured forth.

The atmosphere of the Omni Shoreham hotel ranged from gracious to labyrinthine. The lobby and Garden Court had ample overstuffed chairs and couches. The vaulted ceilings were decorated with French-style cupids sporting ribbons and flowers (some relevance to fertility here?). Several of the meeting room names had a nation's capital flavor: Congressional, Ambassador, Cabinet, Diplomat, Executive, and the Blue Room.

Fortunate were those who crossed the nearby Duke Ellington bridge (currently being wired for sound, rumor has it, to continuously broadcast melodies of the native Washingtonian jazz legend) into Adams Morgan, Washington's premiere ethnic dining area. This area is famous for its Tex-Mex, French, Chinese, Ethiopian, Italian, South American, and Caribbean food; a place where imported vinegar on a leaf of rodicehio takes mundane salad to the limit.

Saturday morning, five hardy souls trooped down the hill into Rock Creek Park to take part in PAA's 13th Annual Fun Run: 7:30 a.m., 38 degrees, and rainy. Highlights of the run included the O Street bridge and vast banks of yellow daffodils, naturalized through Lady Bird Johnson's "beautification" efforts in the 1970s. It was a spirited run, but some of the traditional competitive quality seemed to have been lost, with no one noting who won!

The conference's most startling euphemism: "transition to nonvirginity."

Oddest use of economic concepts: "supply of intercourse" (in cross-tabulating frequency of intercourse with choice of contraceptive method).

Overheard: "Forget the 7:30-in-the-morning Fun Run–how about a noontime Wimp Walk?"

Insight on the changing demographic situation in Europe: "My Danish niece told me she's going to have fun until she's 30, and then get married" (James Vaupel).

distinguished scholar and past PAA president.

Peter Donaldson (Population Council) introduced 1990 PAA President Ronald Rindfuss with such genuine warmth that Rindfuss had to sweep a few tears away before launching into his address.

Rindfuss sketched out the dimensions of a critical, but somewhat neglected stage of the life course: the young adult years, which he defined as ages 18 to 30. These are "demographically dense" years, with "more demographic action taking place" than during any other stage of life (see "Speaking Graphically," p. 2).

We have some sense of norms concerning an orderly sequence of activities that young adults should follow: for example, that schooling be completed first, and then meaningful work should begin and continue without interruption. But alternate or "disorderly" sequences are common.

All these sequences are marked by transitions between various roles such as student to worker or single to married. Transitions can be "crisp" or "blurred," with the components of the transition being gradually assumed. (For example, when a cohabitating union precedes legal marriage.)

The fertility of young adults has increased recently, but this does not necessarily signify a return to values that emphasize the family over individualism, said Rindfuss. Instead, today's pronatalist forces seem to move in the direction of allowing individuals more choice: a loosening of the requirement for men to be the financial provider, a looser connection between marriage and childbearing, and a relaxing of the requirement for the biological mother to be with her child during her child's waking hours. Rindfuss also noted a feminization of parenting—with women "accommodating to the mother role, whether or not they have husbands, whether or not they are in the labor force."

—Compiled by Brenda Root, Minki Chatterji, Kimberly Crews, Chona Cruz, Cary Davis, Carol De Vita, Judy Felt, Bill Frey, Reinaldo Gregori, Tom Godfrey, Eileen Hanlon, Nancy Johnson, Taynia Mann, Susan Kalish, Tom Merrick, Elaine Murphy, Kelvin Pollard, Martha Farnsworth Riche, Nazi Roudi, Alex de Sherbinin, Nancy Wemmerus, Machiko Yanagishita and Nancy Yinger.

ADDENDA

You Are What You Eat?

How do you define a *person*? No, it's not a "featherless biped," as one ancient philosopher suggested. Here's the operational definition of a person, according to the U.S. Department of Agriculture:

"Person:

One equivalent person equals 21 meals at home in a week. Average quantities and money value of food used per person by groups of households are per 21-meal-at-home-equivalent person."

Source. Food Consumption: Households in the United States, Seasons and Year 1977-78, USDA, Human Nutrition Information Service, Consumer Nutrition Division, Nationwide Food Consumption Survey 1977-78, Report No. H-6.

POPULATION UPDATE

Estimated United States Population:

As of January 1, 1991	251,409,000
As of January 1, 1990	248,684,000

The above estimates, based on the 1990 Census, include armed forces overseas and are from U.S. Bureau of the Census *Current Population Reports*, Series P-25, No. 1071.

Estimated World Population:

As of May 1991	5,369,000,000
Annual growth	93,000,000

Extrapolation from the mid-1991 population on PRB's *1990 World Population Data Sheet.*

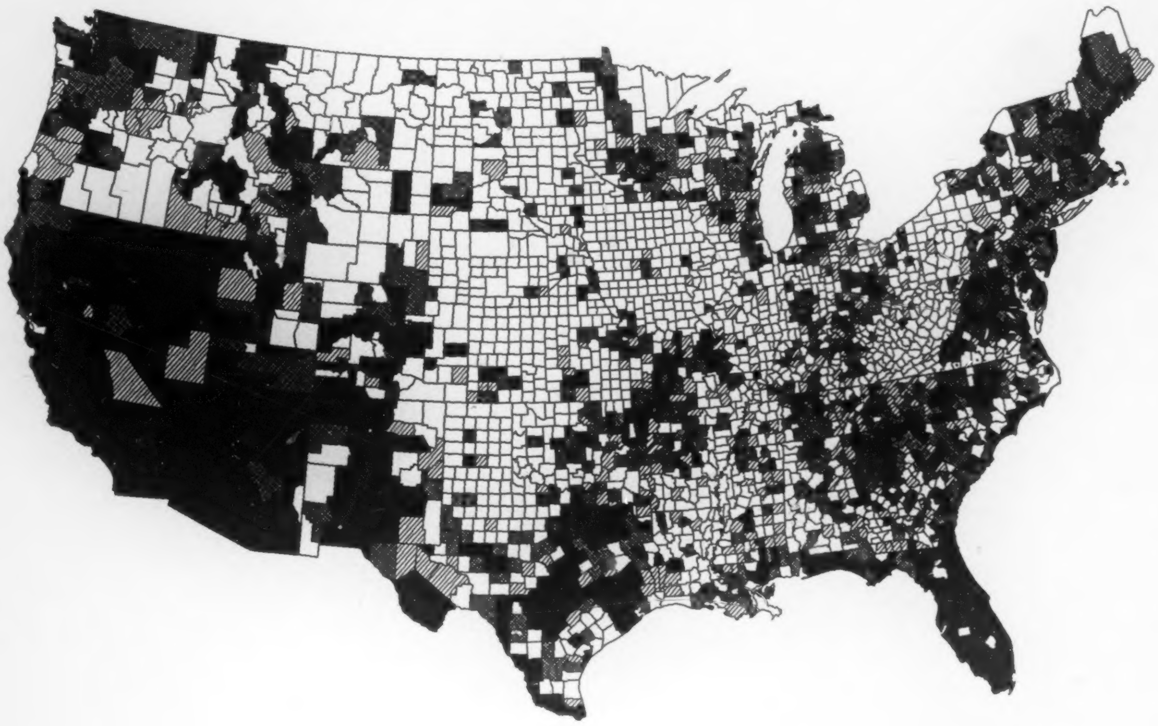
Latest Provisional Statistics for the U.S.: November 1990

	12 months ending with November					
	Number		Rate			
Item	1990	1989	1990	1989	1988	1987
Live births	4,168,000	4,004,000	16.6	16.1	15.9	15.7
Deaths	2,175,000	2,142,000	8.7	8.6	8.8	8.7
Natural increase	1,993,000	1,862,000	7.9	7.5	7.1	7.0
Marriages	2,456,000	2,396,000	9.8	9.7	9.7	10.0
Divorces	1,183,000	1,164,000	4.7	4.7	4.8	4.8
Infant deaths	38,100	38,900	9.1	9.7	10.0	9.9
Population base (in millions)	...	...	250.6	248.0	245.4	243.1

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.
Source. Monthly Vital Statistics Report (Vol. 39, No. 11) from the National Center for Health Statistics.

PEOPLE PATTERNS

Population Gain and Loss in U.S. Counties, 1980-1990



■ Grew more than 9.8%
▩ Grew 3.0%-9.8%
▨ Grew less than 3.0%
☐ Lost population
National average = 9.8%

Map by Nancy Wemmerus
using Atlas Graphics™

Counting by County: Comparing population totals in U.S. counties from the 1990 Census with those from the 1980 Census shows us how much that county grew or declined over the past decade. Population change is often used as an indicator of economic growth or decline, since people tend to stay in or move into thriving local economies, but move away from weak local economies. (In the case of growing retirement communities, however, migrants bring resources with them that stimulate the local economy.) This map shows percentage growth, which means that counties with small populations in 1980 may show sharp changes with relatively small numbers of people involved.

Counties that grew more than the national average, 9.8 percent, are shown in solid black. These high-growth counties cluster along the Pacific and Atlantic Coasts, the Gulf of Mexico, the Southwest, New England, the Pacific Northwest, and in the Ozarks of Oklahoma, Missouri and Arkansas.

The counties that lost population (solid white) spread over vast areas of the Great Plains, blanket the Appalachian mountains, and stretch along the lower Mississippi Basin.

This county-level map shows patterns in population change that state-level maps obscure (compare with *PT* February 1991, p. 3). For example, only some Texas counties seem to participate in the high-growth Sunbelt. On state-level maps, stronger economies in eastern portions of Virginia, Maryland, and Pennsylvania obscure declines in Appalachian counties. By the same token, high growth rates in the Ozarks and around the Great Lakes are diluted on state-level maps.

This PRB People Patterns map is presented in black and white for easy reproduction for teaching purposes.

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 1875 Connecticut Ave., N.W., Suite 520, Washington, D.C. 20009-5728.

POPULATION AND POLITICS SINCE 1750, by William H. McNeill. Charlottesville: University Press of Virginia, 1990. 85 pages. $15.00 paperback. ISBN 0-8139-1257-1.

Demographers are always in luck when noted historian William McNeill, author of *Rise of the West, Plagues and Peoples, The Pursuit of Power,* and a shelf-full of other insightful books, talks about population. His three 1988-1989 Richmond Lectures at the University of Virginia, now chapters in this brief volume, ponder the demographic underpinnings of war, revolutions, and the political behavior of nations. Expanding populations in Europe stimulated the industrial revolution in some Western European countries, but successful transitions were by no means universal, as McNeill demonstrates in recounting the experiences of Ireland, the Scottish Highlands, and the Balkans.

When population growth outruns local resources, then riots, revolutions, and political crises have often resulted. McNeill emphasizes the role that peasants around the world have played in the shifting balance between human numbers and land during population expansions in Europe and elsewhere. He provides pertinent examples drawn from historical experiences in Latin America, Asia, and the Middle East. Now, the surge in migrations from rapidly growing, poor countries to richer and aging neighbors, along with reappearance of bottled-up ethnic rivalries in Eastern Europe and the Soviet Union, seem likely to produce further volatility in the interactive realms of demography, ecology, and politics.

McNeill cautions that "all the cleverness in the world cannot emancipate us from the balances of nature," but assures the reader that recognition and understanding of the role of demography in human affairs can help us to "navigate successfully amidst the tumult of our times."

—Tom Merrick

PRESERVING THE GLOBAL ENVIRONMENT: The Challenges of Shared Leadership, edited by Jessica T. Mathews. New York: W.W. Norton and Co. for The American Assembly and the World Resources Institute, 1991. 362 pages. $10.95. ISBN 0-393-96093-5.

As a tribute to the 20th anniversary of Earth Day last year, 76 participants from 18 countries met to discuss U.S. national and global policies related to the "question of preserving the global environment for the survival of the planet, and the challenge to the United States of shared leadership for this purpose."

Ten papers from that meeting in this volume deal with such wide-ranging issues as population growth and development (Nathan Keyfitz); deforestation and species loss (Kenton Miller, Walter Reid, and Charles Barber); protecting the ozone layer (Richard E. Benedick); energy and climate change (George Rathjens); role of economic policies (Tom Tietenberg); world economic climate (Richard Cooper); international cooperation (Peter Sand); international regulatory regimes (Abram Chayes and Antonia Chayes); and implications for U.S. policy (Jessica T. Mathews).

The editor's introduction provides an excellent discussion of global events that have shaped development and environment policies in the past two decades. Several themes stand out. First, as demonstrated in Keyfitz' chapter, changes in the global environment are made much more urgent and rapid "because of the scale and characteristics of human population growth, and the strongly nonlinear relationship between human activities and their environmental impact." Alleviating poverty and protecting the environment are both considered critical to long-term development.

Two themes deal with international cooperation: solutions to many pressing environmental problems lie beyond national boundaries, and north-south relations are bound to change.

Another two themes concern institutional reform: changing the process of international consensus-building and the active role of nongovernment actors such as scientists, organizations, and private corporations.

Three final themes focus on economic reform. First is the failure of national income accounts to value and adequately depreciate a country's natural resources. Another is the need for proper economic tools (such as appropriate property rights regimes) in promoting sustainable management of resources. Lastly, natural resources can be used more efficiently at little or no cost "by correcting current policy failures."

Keyfitz' ground-breaking chapter is particularly enlightening. He skillfully outlines the context and "intellectual constraints" that frequently lead environmentalists to misunderstand population growth issues. To dismiss population as an "external" factor would be a mistake, writes Keyfitz. "In principle, whether we can get at the cause of the troubles in some deeper sense or not, what has to be done is plain. Effort along various lines—controlling population and inventing more benign technology, for instance—has to be directed where it will produce the largest results."

—Chona Cruz

ANGOLA

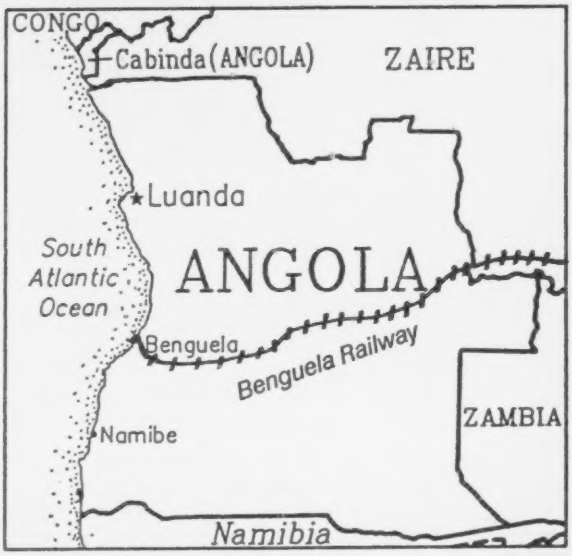
Population (1991 est.): 8.5 million
Land area: 481,354 sq. mi.
Births per 1,000 pop.: 47
Deaths per 1,000 pop.: 20
Rate of natural increase: 2.7%
Total fertility rate: 6.4
Infant mortality rate: 137 per 1,000 live births
Life expectancy at birth: 45 years
Capital: Luanda

By Gwenda Brophy

The demographic profile of Angola bears the marks of war and economic deterioration. The ongoing civil war began before the country gained its independence from Portugal in 1975. At independence some 350,000 Portuguese, the country's main traders, importers, and exporters fled, impairing the ability of the new country to function economically.

Located in southwest Africa, Angola borders the countries of Zaire, Zambia, Namibia, and (across the narrow Caprivi Strip) Botswana, with the Atlantic Ocean flowing along its vast western coast. Angola has rich mineral deposits, including oil, diamonds and other precious stones, and metals such as iron and copper. In 1985, it exported $2 billion in oil (which makes up 35 percent of the GNP and about 96 percent of total exports). Coffee and diamonds account for between 2 and 3 percent each of total exports. Although only 3 percent of its land is arable, Angola has been a producer of such agricultural products as coffee, sisal, cereals, and cotton.

Several countries, including the United States, the Soviet Union, Cuba, and South Africa, have taken part in the prolonged civil war. Despite some short-lived accords between the Marxist government (MPLA) and the anti-government UNITA movement, the war shows no signs of a definite end. However, a new round of negotiations on national reconciliation, aided by experts from Portugal, the United States, and the USSR have raised some hopes.



U.S. Department of State

Extremely disrupted circumstances have made it difficult to obtain reliable population information, but it is estimated that by mid-1988, the war had displaced or made destitute over 1.5 million people. Many fled from rural areas to the cities. According to the U.S. State Department, in 1990 there were 9,700 refugees from Zaire and 1,100 from South Africa in Angola. Some 400,000 Angolan refugees are resident in neighboring countries, most in Zaire and Zambia. Famine has contribututed to some of this movement.

Angola's life expectancy and infant mortality rate are among the worst in sub-Saharan Africa. UNICEF has placed under-age-five mortality at 325 per 1,000 births, and the number of disabled children at more than 10,000. Detonating mines are a large cause of disability, with women and children among the injured. Large areas have little contact with medical services.

War has ravaged the economy. Defense accounted for 40 percent of government spending in 1989 and uses a large proportion of skilled manpower. Industry has collapsed, and production of export crops has declined since independence. The war has also demanded the lion's share of the allocation of foreign currency. For example, the allocation for health supplies dropped from $10.30 per capita in 1981 to $0.90 in 1987 (in U.S. dollars). War also closed down the Benguala railroad that links the Zambian copper belt to the Angolan coast. Drought beginning in 1988 brought additional problems to some regions, especially in the hard-hit south, with starvation deaths reported in some areas. Engines, heavy machinery, spare parts, as well as expertise and technology are also scarce.

One optimistic sign is that President Jose Eduardo dos Santos enacted an economic and financial restructuring program in 1987, and in 1989 the country joined the Soviet Union and Brazil to construct one of the biggest hydroelectric projects on the African continent. This project, planned for completion in 1994, could usher in dramatic industrial and agricultural development to the rural areas of Angola where most of the population lives. Real progress, however, must wait upon peace, which would also benefit Angola's neighbors Zaire and Zambia, by making it possible to open the Benguala railway.

POPULATION TODAY

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The pandemic will worsen as those currently infected develop the full-blown disease

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Contraceptive use rises, fertility declines

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The Census Bureau's March 20-21, 1990 efforts to canvass urban streets and homeless shelters added but a few homeless to final census counts

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Arthur Haupt

Should the 1990 Census be adjusted to account for urban undercounts? (See page 6.)

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FROM THE EDITOR'S DESK

Comeback attempts by 30-plus athletes in recent months have given a special poignancy to the passage of the baby-boom generation into middle age.

Mark Spitz, age 41, swam his way to seven gold medals at the 1972 Summer Olympics in Munich. But in April, Spitz's attempt to rejoin the U.S. Olympic team in 1992 suffered two setbacks. In separate 50-meter sprints, he finished two seconds—almost two body lengths—behind Tom Jager and Matt Biondi, two top swimmers in their mid-20s. Jim Palmer, age 45 and already a member of baseball's Hall of Fame, saw his dream of returning to the game die in the Baltimore Orioles' spring training camp.

And there's Bjorn Borg, age 34, the handsome tennis superstar who won six French Open titles and five consecutive Wimbledons between 1976 and 1980. Borg retired from tennis in 1984 while still in his 20s. In late April, 26-year-old Jordi Arrese slammed Borg's announced comeback plans in the Monte Carlo Open.

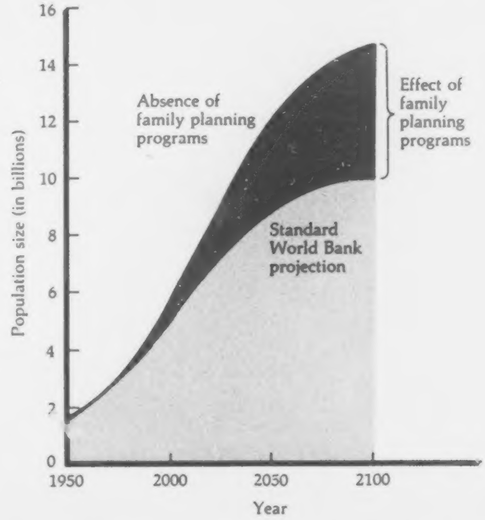
Yet fans can find some consolation in other boomer athletes. Nolan Ryan, baseball's career leader in strikeouts, is still pitching major league baseball for the Texas Rangers at age 44. In fact, just last month he pitched his major league record seventh career no-hitter in a 3-0 victory over Toronto. While in her late 20s, 1970s tennis *wunderkind* Chris Evert adapted to the increased athleticism of the women's game, enabling her to remain among the world's top four players up to her graceful exit in 1989—at the advanced age of 35.

Still, Spitz, Palmer, and Borg seem to provide an object lesson about what may be a propensity of the quintessential "youth generation" to assume they can somehow stay forever young.

—Susan Kalish and Kelvin Pollard

SPEAKING GRAPHICALLY

Family Planning Slows Population Growth



Without organized family planning programs, future population growth would be considerably higher than is now expected. Past family planning efforts have already produced a population reduction of 412 million as of 1990. Future impact could reach 0.7 billion in the year 2000, 3.1 billion in 2050, and 4.6 billion in 2100.

Source. John Bongaarts, W. Parker Mauldin, and James F. Phillips, "The Demographic Impact of Family Planning Programs," *Studies in Family Planning* Vol. 21, No. 6 (November/December 1990).

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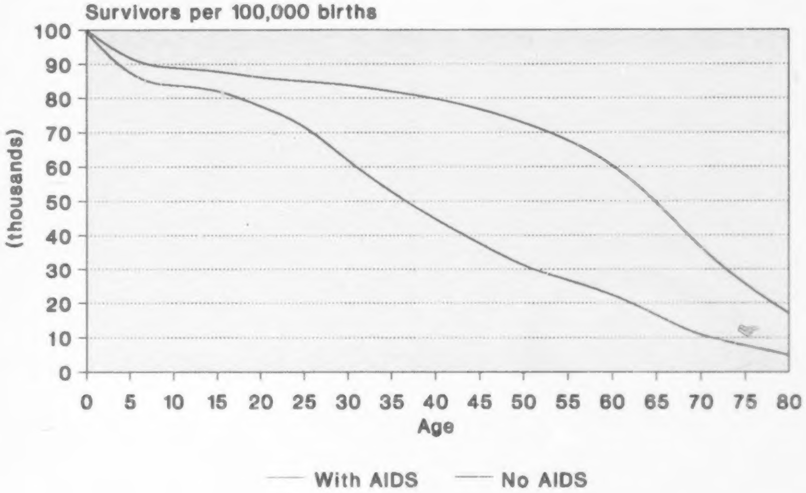
AIDS Gains Momentum in 1990s

Urban Survivors in Sub-Saharan Africa, 2015: AIDS and No-AIDS Scenarios



Source. Peter O. Way and Karen Stanecki, "How Bad Will It Be? Modeling the AIDS Epidemic in Eastern Africa," Bureau of the Census, Center for International Research, Washington, D.C., 1991.

The AIDS pandemic is likely to dramatically worsen in the 1990s, as people already infected with HIV, AIDS' precursor, develop the symptoms of AIDS. The long period between infection and the onset of symptoms means that the disease moves through exposed populations like an iceberg—with a few people recognizably ill, but a much larger and hidden portion of the population without symptoms, capable of spreading infection at an ever-greater rate.

Although a total of 345,533 cases have been reported to the World Health Organization (WHO) by 162 countries as of April 1, the actual number is probably more than 1 million.[1] Ten million people around the world may be infected with HIV.[2] More than one-third of HIV-infected adults worldwide are women, and by the year 2000 the annual number of AIDS cases in women will begin to equal that of men.[3]

AIDS (Acquired Immune Deficiency Syndrome, which develops from the human immunodeficiency virus, or HIV) probably started in the 1950s or 1960s. The disease spread invisibly through the 1970s to such widely separated locations as the United States, Haiti, France, Belgium, Zaire, and Zambia.[4]

AIDS in the United States

AIDS was first recognized among homosexual men in the United States just a decade ago, in 1981. From 1981 through 1990, 100,777 deaths caused by AIDS were reported to the Centers for Disease Control (CDC). Of these, almost one-third (31,196) were reported during 1990, suggesting that the epidemic might be gaining momentum. During the 1980s, AIDS emerged as a leading cause of death among young adults in the United States. Most deaths from AIDS have occurred among homosexual or bisexual men (59 percent) and among women and heterosexual men who are intravenous-drug users (21 percent).[5] In major cities, it is now the leading cause of death for women age 20-40.[6] The extent to which it has spread to the general population is unknown. Although most deaths occurred among whites, death rates have been highest for blacks and Hispanics.

During 1990, the number of reported deaths per 100,000 population was 29.3 for blacks, 22.2 for Hispanics, 8.7 for non-Hispanic whites, 2.8 for Asian and Pacific Islanders, and 2.8 for American Indians and Alaskan Natives. The CDC estimates that approximately 1 million persons in the United States are currently infected with HIV.[7]

The average period between infection and the onset of AIDS appears to be seven years among those who were infected through blood transfusion, and 11 years in homosexual men. Yet, some people may be infected with HIV for up to 20 years before the onset of serious illnesses. But once developed, AIDS is invariably fatal.[8] In developed countries about half die within 18 months of diagnosis, and about 80 percent within three years. Survival time appears to be shorter in less developed countries, possibly due to later diagnosis and limited treatment facilities.

AIDS in Africa

Sub-Saharan Africa has been hardest hit by AIDS. With about 10 percent of the world's population, this region accounts for 25 percent of the world's reported AIDS cases. If all cases were reported that proportion would rise over one-half.

In Africa, AIDS spreads primarily through heterosexual contact—both between marriage partners and extramarital contacts. High rates of sexually transmitted diseases, combined with high rates of sexual partner exchange, fueled the spread of HIV in this region. Today, as many women as men in sub-Saharan Africa are infected with HIV. In the United States, by contrast, the ratio is eight to one. About 80 percent of all HIV-infected women live in Africa. WHO expects AIDS to kill 1.5 to 3 million women of reproductive age in Central and East Africa during the 1990s, producing several million orphans. UNICEF calculates roughly that each woman dying of AIDS will leave behind an average of two children.[9]

According to UNICEF, HIV-infected pregnant women are thought to have a 15 to 45 percent chance of passing the virus to their children before, during, or shortly after birth, although why some children become infected, while most do not is unknown. WHO estimates that, by 1992, Africa will have borne a total of 250,000 HIV-infected infants.[10]

Continued on next page

AIDS

Continued from previous page

Only considerable behavior change could limit the spread of AIDS in Africa, including increased condom use and a reduction of casual sexual contacts. Even if a cure for AIDS were to be developed, it might prove to be too expensive to help the majority of infected Africans.

According to a model produced by the U.S. Department of State's Interagency Working Group (IWG), HIV infection will increase seven-fold in sub-Saharan Africa between 1990 and 2015, from about 1 to 8 percent of the total population. In urban areas it will rise from 4 to 16 percent.[11] AIDS will reduce urban life expectancy by 19 years in the region, cutting in half survival to age 45 in many sub-Saharan cities (see figure). Over the 25-year period, the annual population growth rates will fall from 2.2 to 1.8 percent—or about 50 million fewer people than without AIDS. Despite the heavy death toll projected, then, the effect of the AIDS epidemic on the overall population growth picture of sub-Saharan Africa is expected to be moderate.

—*Nazy Roudi*

Nazy Roudi is a research demographer at PRB.

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SURVEY REPORT

Peru

Both fertility and child mortality rates have declined in Peru since 1977, according to the 1986 Peru Demographic and Health Survey, the latest data available. Between 1981 and 1986, the proportion of currently married women using contraception increased from about 28 to 46 percent. Modern methods (such as IUDs, the pill, and sterilization) account for about half of this. More children are being breastfed during their first year of life and more children under age five are being immunized. Nevertheless, demographic and health indicators are far from optimal.

Planificacion

Alex de Sherbinin

Billboard in Cuzco, Peru, advertises family planning services.

The fertility rate declined by 23 percent between 1977 and 1986, from an average of 5.3 lifetime births per women to 4.1. Women's level of education has the greatest impact on fertility. Women with no education will average twice as many children as women with a secondary education (6.6 children compared with 3.1), and three times as many children as a woman with higher education (1.9).

Several other factors influence fertility levels and trends in Peru. Women are marrying later and consequently start having children later, so they are exposed to pregnancy for fewer years over their lifetimes. Breastfeeding is widely practiced, for 16 months on average (20 months for rural women, 13 months for urban women). Breastfeeding tends to extend the time following a birth during which a woman is less likely to conceive.

Women also report wanting fewer children. The average desired family size was three children; just over half considered two or fewer children as ideal. Most wanted to limit or space births. Nearly two-thirds of all women in union want no more children; an additional 6 percent have already been sterilized. Half of the women in union age 20-24 do not want another child. Enabling women to achieve their preferences through use of family planning would reduce the number of unwanted and mistimed births. For example, mothers report that in the five-year period prior to the survey, three in 10 births were unwanted; another three in 10 were wanted later.

Most women in union know of at least one modern contraceptive method. The most commonly used methods are rhythm, the IUD, the pill, and female sterilization. The least-known method is male sterilization.

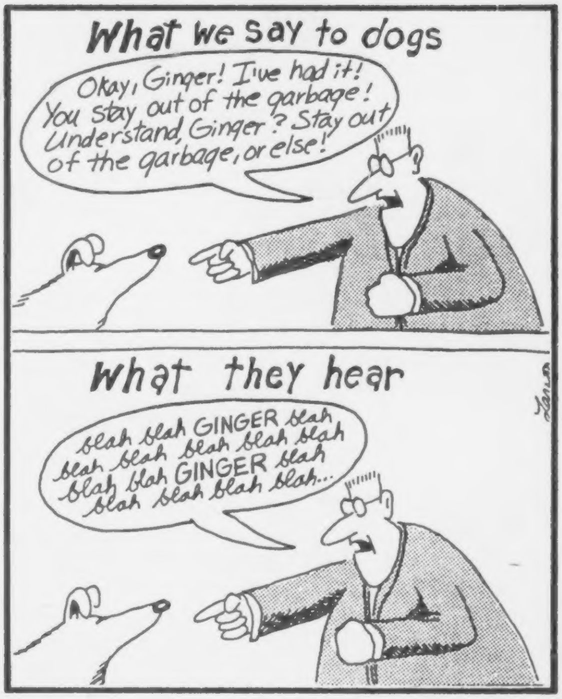
Infant and child mortality rates in Peru are among the highest in Latin America. Currently one in nine children dies before age five. Death rates declined significantly over the past decade, especially after the first year of life, according to the survey.

—*N.R.*

Riche's Rules for Dealing with the Media

Academic demographers frequently want to get their findings out to a wider audience. That usually means talking to reporters. Here are some simple rules for making the most of your contacts with the press.

- **Know why you want to talk to reporters and why you don't—and make that happen.** Most academicians don't want to be a reporter's research assistant—looking up numbers for them. You do want to get your ideas to a broader audience, or perhaps get your organization some press attention that will help at funding time. Ask a reporter right up front, "Are you looking for some numbers, or did you want to interview me for attribution?"
- **Make the points you want to make, not the ones they want you to make.** Don't let reporters determine the agenda; after all, you're the expert. Take a lesson from the politicians and respond to a question you *don't* like with an answer you *do* like: "That's an interesting issue but the important point is really . . . ." If this is a live interview on radio or TV, you need to respond to the interviewer's question to be polite—but use it to build a bridge to the point *you* want to make.
- **Recognize that reiteration is essential.** As researchers, we feel that once we've discovered the "truth" and announced it, we've changed people's thinking. But other ideas, often contradictory, sometimes unfounded ones get quoted and announced too. Don't let bad ideas drive out good ones in the public mind. You owe it to your field and your fellow professionals to get your analysis out, over and over again.
- **Maximize the possibility of being quoted, and being quoted right, by summarizing in a simple sentence.** Use everyday words. If possible, use an everyday image. Some of these—"baby boom," "supermom," "the graying of America"—have entered everyday language. You know that you've hit it when you hear an indrawn breath and rapid keyboarding on the other end of the telephone line.
- **Be positive, not negative.** *Don't* tell reporters what you can't or won't tell them; that just makes them push harder. *Do* build up what you *are* going to tell them with phrases like, "What's really interesting is. . ." or "People haven't realized yet that. . . ."
- **Realize that there is a tradeoff between getting quoted at all and getting quoted accurately.** Academic demographers often complain that reporters misquote them, or take their words out of context. This is inevitable, given the qualifyers with which we tend to couch our findings. Put your main point out there loud and clear, rather than qualifying it so much that an ordinary reader or listener would get confused. Reporters tend not to hear the qualifiers anyway.
- **Give a referral if you can't manage an answer.** Sometimes you can't answer reporters' questions (or don't want to, see Rule 1). Refer reporters to an appropriate contact at a university, the Census Bureau, or a state or local public office.


What we say to dogs
Okay, Ginger! I've had it! You stay out of the garbage! Understand, Ginger? Stay out of the garbage, or else!
What they hear
blah blah GINGER blah blah blah blah blah blah blah blah GINGER blah blah blah blah blah blah...
Larson

© Gary Larson

- **Realize that, sometimes, they just won't want to hear it.** There may be times when your sober judgements on a population trend simply do not fit into a reporter's preconceived story idea. Firmly provide a more balanced view. However, if you don't see your name when the story comes out, don't fret. It may be for the best.

—Martha Farnsworth Riche
Director of Policy Studies at PRB

Homeless Count Hits Street

The Census Bureau's highly controversial, media-intensive count of the homeless was recently released and, as expected, was instantly pronounced as too low. Rep. Tom Sawyer (D-Ohio) called for a congressional hearing, warning of the danger of "the use of [homeless] census counts for program purposes."

The S-Night operation counted 178,828 persons in shelters and 49,793 "visible in street locations." These figures were considerably lower than a 1989 estimate by the Urban Institute, which had placed the national homeless population at about 600,000 nationwide.

Criticism of the count was inevitable because the "count" was not really a count and the homeless population is very difficult to define. The Census Bureau included a strong warning label in its press release, stating that "S-Night was not intended to, and did not, produce a count of the 'homeless' population of the country." Rather, it was designed to "augment" the general census count by extending the enumeration to include some of those living in street areas.

Previous censuses had tried to count components of this group, for example, by sending enumerators to missions and all-night theaters. In the 1990 Census, the bureau worked more closely than previously with local governments to identify areas where homeless were more likely to be found.

—C.H.

What Census Adjustment Would Mean

by Jeffrey S. Passel

The debate on adjusting the 1990 Census moved from the theoretical realm to the practical with the Census Bureau's release of preliminary undercount estimates on April 18.

The 1990 Census missed 4.3 to 6.3 million persons, representing a net undercount of 1.7 to 2.5 percent, according to the preliminary estimates from the post-enumeration survey (PES),[1] one of two separate Census Bureau research programs. The other program, demographic analysis (DA)[2] estimates a net undercount of 1.8 percent (4.7 million persons).

The undercount is higher than in 1980, according to DA, which estimated a net undercount of 3 million persons, or 1.2 percent in 1980. DA, which provides a consistent series of undercount estimates for the five censuses of 1940 through 1980, has never found such an increase in the undercount rate before.[3]

Adjusting the census would produce many changes. High-undercount groups, such as urban dwellers and minorities, would gain representatives in state legislatures. The distribution of federal and state funds would shift in the same direction. However, only two or three seats in Congress would probably shift between states. Redrawing congressional district boundaries would produce no more than marginal changes.

The decision on whether to incorporate an official adjustment for undercount into the 1990 Census will be made by Secretary of Commerce Robert Mosbacher and announced by July 15.[4] Among other criteria, the secretary must take into account whether an adjustment would produce a better count overall. Adjustment would be made for every block in the country. These blocks are the basic units for constructing legislative districts and population totals. For such small areas, however, adjustment would not correct specific census errors; rather the adjustment would be claimed to improve the block data "on average." For this and other reasons, adjusting the 1990 Census would not eliminate the controversy over the undercount. A decision against adjustment obviously would not end the controversy. Either way, the issue will probably find its ultimate resolution in court.

Undercounts: Who and Where

The preliminary PES and DA results will be revised to reflect later information and various kinds of statistical and demographic modeling, but the results released so far allow us to make some educated guesses about the effects of adjustments.

As in earlier censuses, the 1990 Census missed some groups more frequently than others, despite the Census Bureau's diligent efforts to eliminate these differences. According to the PES, the black population was undercounted by 4.4-6.2 percent, whereas the non-black population had an undercount of only 1.2-2.0 percent. The black/non-black differential in coverage from the PES is 3.2-4.1 percentage points. DA shows a larger difference of 6.1 percentage points between the black undercount rate of 7.2 percent and the non-black rate of 1.1 percent. This racial differential in coverage—which lies at the heart of the adjustment controversy—appears to have increased since 1980.[5]

The Hispanic population also had higher-than-average undercounts, ranging from 4.2 to 7.3 percent, according to the PES. The 1990 PES provides the first direct estimates of census coverage ever released in the United States for Asians and Pacific Islanders (0.9-4.4 percent) and American Indians (2.5-7.3 percent).[6]

Results of the preliminary 1990 PES document substantial geographic disparities in census coverage. The Northeast (1.1 percent) and Midwest (1.1 percent) regions have lower-than-average undercount rates, while the South (2.6 percent) and West (3.2 percent) have higher-than-average rates.[7] With the South's substantially increased undercount over 1980 levels, the 1990 Census apparently has returned to a pre-1980 geographic pattern of census coverage of regional undercounts.[8]

Census divisions with the most extreme undercounts are the South Atlantic (3.5 percent) and Pacific (3.4 percent). The Mountain division (2.6 percent) also has a higher-than-average undercount. The West South Central division (2.1 percent) is about average, while the other five divisions have lower-than-average undercounts.

Of the 50 states, only a few appear to have significantly higher-than-average undercounts, once the sampling variability is taken into account. California (2.7-4.7 percent) and New Mexico (2.6-5.1 percent) definitely fall above the range for the whole country (1.7-2.5 percent). In addition, several South Atlantic states apparently have high undercount rates: Virginia (2.3-4.7 percent), North Carolina (2.1-4.6 percent), South Carolina (2.2-4.7 percent), and Florida (2.2-5.1 percent).[9] The District of Columbia's extreme undercount rate (3.7-8.7 percent) reflects its totally urban character and will probably be similar to the rates for many other cities (not released as of this writing).

Adjustment: A Zero-Sum Game

Adjustment's effects on congressional apportionment, legislative redistricting, and fund allocation represent a zero-sum game; for every area that gains, there is a corresponding loss elsewhere. Adjustment would not create any additional seats in Congress, state legislatures, or city councils. Nor would it generate additional funds for distribution among competing states, counties, or cities. Because the size of the pie does not change, adjustment would not pro-

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duce the big winners that might be anticipated at first glance.

Congressional apportionment. Seats in the House of Representatives are apportioned among the states according to the Method of Equal Proportions (see *PT* July/August 1990). In this method, after each state receives its first seat, the remaining seats are assigned sequentially according to a set of "priority values." The priority value for the Nth seat in a state (for example, the second, fifth, or 40th seat) is the state's apportionment population multiplied by the factor:

$$1/\sqrt{N(N-1)}$$

The state with the largest priority value receives the 51st seat; the second largest, the 52nd seat; and so on until all 435 seats have been assigned. Priority value number 435 receives a seat while priority value number 436 does not.

Because all states are being adjusted, merely adding enough people to account for an average congressional district does not guarantee an additional seat. A state with a higher-than-average undercount rate moves up in the adjusted rankings; and so the state has a chance to gain representation. States with lower-than-average adjustments move down in the adjusted priority rankings.

The crucial priority values for a state are those for the last seat it received under the unadjusted apportionment and for the next seat it would receive. If these priority values are not close to the 435th seat, the state has no chance to gain or lose representation. Conversely, states close to the cut-off line can be affected by very small differences in adjustment factors. The 1990 apportionment illustrates how small the differences can be (see table). Had Washington's population been 10,200 smaller (or 0.21 percent), it would not have gotten its ninth seat; Massachusetts failed to get an 11th seat by 12,600 people (or 0.21 percent). Each of the last seven seats awarded could have been lost by 0.6 percent of a state's population. Priority values 436 (Massachusetts), 437 (New Jersey), and 438 (New York) each missed being above the cut-off line by less than 0.6 percent of the state's population.

Population Change to Lose Last Seat in Congress or to Gain an Additional Seat: 1990 Apportionment Population (Unadjusted)

Seat in House	State	Apportionment population	Population change required: Amount	Population change required: Percent
Possible losers				
428	Calif. (52)[a]	29,839,250	-236,002	-0.79
429	Tex. (30)	17,059,805	-104,241	-0.61
430	Miss. (5)	2,586,443	-15,648	-0.61
431	Wis. (9)	4,906,745	-29,004	-0.59
432	Fla. (23)	13,003,362	-72,490	-0.56
433	Tenn. (9)	4,896,641	-18,900	-0.39
434	Okla. (6)	3,157,604	-9,036	-0.29
435	Wash. (9)	4,887,941	-10,200	-0.21
Possible gainers				
436	Mass. (11)	6,029,051	+12,607	+0.21
437	N.J. (14)	7,748,634	+22,698	+0.29
438	N.Y. (32)	18,044,505	+98,765	+0.55
439	Ky. (7)	3,698,969	+34,258	+0.93
440	Calif. (53)	29,839,250	+401,972	+1.35
441	Mont. (2)	803,655	+11,002	+1.37
442	Ariz. (7)	3,677,985	+55,242	+1.50
443	Ga. (12)	6,508,419	+109,885	+1.69

[a] Total members of state's delegation to the House of Representatives.
Source. Apportionment population from the U.S. Bureau of the Census.

Adjusting the 1990 Census affects Congressional apportionment principally for the states listed in the table. To illustrate, if the average PES values are used to adjust, three states would gain an additional seat: Georgia (12th seat), Montana (2nd seat), and California (53rd seat). The losers would be Oklahoma, Pennsylvania, and Wisconsin. However, even very small changes in the factors could affect the results. Georgia and Montana would cross the line by only 0.05 percent! Oklahoma would miss retaining a seat by the same percentage. Put another way, were Montana's adjustment 510 people smaller, it would not get a second seat.

One cannot predict exactly how adjustment may affect congressional apportionment because the formula is so sensitive to small differences in population that may affect priority values around seat number 435. Also, the precision of the PES estimates falls far short of what is needed to guarantee that an apportionment based on adjusted data is more accurate than the one based on the unadjusted counts. The states listed above as potential gainers or losers could have their congressional delegation size affected by changes in adjustment factors of 0.8 percent or less—differences that could easily occur purely as a result of sampling variability because one standard deviation for the adjustment factors usually is in the range of 0.5-0.9 percent.

Legislative redistricting. The drawing of legislative district boundaries is inherently a political enterprise. A myriad of factors can affect the outcome, including the geographic distribution of the population, the size and distribution of minority populations, the location of jurisdictional boundaries, residential locations of incumbents, and the party affiliations and relative political power of different groups.

The potential for gaining an additional representative is a function of the size of the area, its relative undercount, and, most important of all, the average size of the legislative district. As a rule, the larger the average district size, the less likely census adjustment is to create an additional legislative district within a fixed geographic area. Because congressional districts are so large (averaging over 550,000), adjustment has only a marginal impact. However, adjustment could significantly affect the political process where districts are

Continued on next page

Germany's Demographic Future

With 79.5 million people, the unified Germany is now the largest country in Europe, but it faces possible population decline in the future. Currently, Germany's fertility is far below replacement level at 1.5 lifetime births per woman; immigration is controversial. PRB's new *Bulletin,* "Germany's Population: Turbulent Past, Uncertain Future," offers three possible scenarios of Germany's demographic future:

- **Continuation of current trends.** This "no change" hypothesis assumes that current low fertility and mortality rates in West Germany will apply to the unified Germany until 2050, with a constant net in-migration of 80,000 persons a year.
- **Extreme graying.** This scenario envisions Germany's fertility dropping even further below replacement level, while the country, moved by growing hostility toward foreigners, completely closes off immigration. In this society of extreme individualism, families with children would be rare.
- **Demographic revival.** Suppose young Germans rediscover the value of children and Germans adapt to large influxes of immigrants (300,000 a year), so that fertility rises to replacement level. This society not only would be more open, but would also radiate confidence about its future.

The "extreme graying" scenario would give Germany a mere 52 million persons by 2040, less than the present populations of France, Italy, or the United Kingdom. Under current trends, population falls below 60 million by 2040. The "demographic revival" scenario projects a population size of 95 million in 2050. Even so, after 2030, growth depends upon immigration, not natural increase.

—S.K.

From "Germany's Population: Turbulent Past, Uncertain Future," by Gerhard Heilig, Thomas Büttner, and Wolfgang Lutz, *Population Bulletin,* Vol. 45, No. 4. Available from the Population Reference Bureau, 1875 Connecticut Avenue, N.W., Suite 520, Washington, D.C. 20009-5728 (1-800-817-9881). Price: $8 per single copy, discounts for multiple orders.

Demographer's Page

Continued from previous page

small and concentrations of high-undercount populations are large. Inner-city areas could gain several seats in many state legislatures, and minority population concentrations could gain representatives on city and county councils.

Take a hypothetical "average" state with a counted population of 5 million, of which 25 percent is a minority population (or a central city) with a 7 percent undercount. The remaining 75 percent of the state's population is undercounted at 1 percent, and the state's overall undercount is 2.6 percent. Adjustment increases the total population count to 5,132,000. Of these, 1,344,000 people (26.2 percent) are in the high-undercount group and 3,788,000 (73.8 percent) in the low-undercount group.

The adjustment has no effect on congressional redistricting. Either way, the state has nine seats in the House, while the gain of the high-undercount group represents only about one-tenth of a seat. If the state legislature has 100 seats, the high-undercount population gains slightly more than a full seat, however, going from 25 to 26.2 seats. Gains could be even greater with a larger number of districts.

Fund distribution. A similar zero-sum process moderates the impact of census adjustment on federal fund distribution.[10] Assuming $1 billion is to be distributed among all the states, adjustment increases the allotment of our average state from $20.1 million to $20.2 million: only a 0.5 percent difference. The additional people net the state only $0.77 per person, in contrast to the initial allocation of $4.02 per person. Both the total gain and per capita gain are lower than expected because the entire U.S. population is being adjusted upward 2.1 percent. If the state's undercount had been less than 2.1 percent, adjustment would have cost it funding.

Adjustment produces winners and losers within the state as well. The allocation for the high-undercount area would increase by 5.3 percent or $266,000 (from $5,026,000 to $5,292,000), bringing an additional $2.83 (not $4.02) for each of the 94,000 people added by the adjustment. For the low-undercount area of the state, the fund allocation decreases by 1.1 percent or $164,000 (from $15,078,000 to $14,914,000). This loss occurs despite the upward adjustment of the population of the low-undercount area by 1 percent.

Adjustment and the future. Ultimately, implementation of an adjustment would change the way we view census data and probably lead to a far different mode of census-taking, one which would accommodate adjustment into the normal census operations and processing schedules. In any case, the 2000 Census promises to be very different from previous censuses. This difference will be a legacy of the adjustment controversy surrounding the 1990 Census.

Notes

1. The PES is a survey of about 165,000 housing units that is matched against census records to determine if household members were counted in the census. The ranges represent +/-2 standard deviations around the point estimate.
2. Demographic analysis is an estimate of the national population by age, sex, and race constructed with historical and administrative data (from non-census sources) on births, deaths, immigration, and emigration.
3. Robert E. Fay, Jeffrey S. Passel, and J. Gregory Robinson, *The Coverage of Population in the 1980 Census,* U.S. Bureau of the Census Evaluation and Research Report PHC80-E4, February 1988.
4. A set of guidelines published in March 1990 provides the framework for the secretary's decision, which involves not only judging the quality of the census, but also the quality of the adjustment factors. (See *PT,* April 1991.)
5. Modifications for inconsistencies in race definitions between the census and DA will probably reduce the estimated black undercount by about one percentage point (to roughly 6 percent) and reduce the differential to less than five percentage points. Nevertheless, the differential has increased by about 1.5 percentage points over the 1980 levels (see Jeffrey S. Passel, testimony to the Subcommittee on Census and Population, U.S. House of Representatives, March 19, 1991).
6. The PES is the only source of undercount measures for these racial and ethnic groups. DA provides information for the black and nonblack population.
7. Region and division totals reported here are the sum of mid-point estimates for states.
8. See Fay, *et al., op. cit.,* and J.S. Siegal, Jeffrey S. Passel, N.W. Rives, Jr. and J.G.Robinson, "Developmental Estimates of the Coverage of the Population of States in the 1970 Census: Demographic Analysis," *Current Population Reports,* Series P-23, No. 65, December 1977.
9. These ranges may not differ significantly from U.S. averages at a 95-percent confidence level.
10. In addition, adjustment's impact is lessened further because many programs distribute funds on the basis of factors other than population, or use population figures from postcensal estimates rather than the decennial census.

Upcoming Conferences

- **Creating the 21st Century: Individual Responsibility,** July 25-26, 1991, Minneapolis, Minn., and **Business & the Future: Planning to Survive and Progress through the '90s and into the 21st Century,** September 11-13, 1991, New York, N.Y. Contact: World Future Society, 4916 St. Elmo Ave., Bethesda, MD (phone: 301-656-8274; fax: 301-951-0394).
- **Demographic and Health Surveys World Conference,** August 5-7, 1991, Washington, D.C. This nine-year project, funded by the U.S. Agency for International Development, assists government and private agencies in developing countries to conduct national sample surveys on population and health. Contact: DHS, IRD/Macro Systems, 8850 Stanford Boulevard, Suite 4000, Columbia, MD 21045 (phone: 301-290-2800; fax: 301-290-2999; telex: 87775).
- **American Sociological Association** annual meeting, August 23-27, 1991, Cincinatti, Ohio. Contact: ASA, 1722 N Street, N.W., Washington, D.C. 20036 (202-833-3410).
- **Globescope Americas: Charting A Sustainable Future**, October 29-November 2, 1991, Miami, Fla. Contact: John McKain, Global Tomorrow Coalition, 1325 G Street, N.W., Suite 915, Washington, D.C. 20005-3104 (phone: 202-628-4016; fax: 202-628-4018).
- **Getting to Know You: Building Partnerships among the Disciplines and Professions,** Association for Gerontology in Higher Education 18th annual meeting, February 27-March 1, 1992, Baltimore, Md. *Deadline for papers and presentations: July 8, 1991*. Contact, AGHE, Scripps Gerontology Center, Miami University, Oxford, OH 45056.
- **Generations at Risk: We Walk on Common Ground,** March 14-17, 1992, San Diego, Calif., American Society on Aging, 38th annual meeting. *Deadline for papers and presentations: July 8, 1991.* Contact: ASA, 833 Market Street, Suite 512, San Francisco, CA 94103-1824 (415-882-2910).

SOFTWARE

Teen Scenes, Teen Times, and **Ask Dr. Know** are computer games that teach teens basic facts about contraception and show them statistics on contraceptive use, pregnancy, low birth weight babies, and other issues related to teen sexuality. Three accompanying illustrated booklets cover the same ground.

The three games deal with the same issues, but present them in different ways. The first is similar to an adventure game, where each decision on sexuality leads to a different set of circumstances. The second is a Q&A game based on U.S. statistics on teen sexuality and pregnancy. The third lets players read letters from teens to an advice columnist (Dr. Know).

The games explore contraceptive use and the choice whether or not to have sex. They present a lot of information with a light touch. There are shortcomings, however. The games present only one type of negative outcome from teen sexuality—pregnancy—an outcome that boys may find difficulty identifying with. There is no information on sexually transmitted diseases or AIDS. Relatively simple productions, these games may have an uphill climb competing with the fast-paced, colorful video and computer games to which today's teens are accustomed.

The games require an Apple Macintosh and Hypercard. Games and books are $14 each from Sociometrics Corporation, 170 State Street, Suite 260, Los Altos, CA 94022.

—*E.H.*

POPULATION UPDATE

Estimated United States Population:

As of March 1, 1991	251,782,000
As of March 1, 1990	249,034,000

The above estimates, based on the 1990 Census, include armed forces overseas and are from U.S. Bureau of the Census *Current Population Reports*, Series P-25, No. 1073.

Estimated World Population:

As of June 1991	5,377,000,000
Annual growth	93,000,000

Extrapolated from the mid-1991 population on PRB's *1991 World Population Data Sheet*.

Latest Provisional Statistics for the U.S.: December 1990

	12 months ending with December					
	Number		Rate			
Item	1990	1989	1990	1989	1988	1987
Live births	4,179,000	4,021,000	16.7	16.2	15.9	15.7
Deaths	2,162,000	2,155,000	8.6	8.7	8.8	8.7
Natural increase	2,017,000	1,866,000	8.1	7.5	7.1	7.0
Marriages	2,448,000	2,404,000	9.8	9.7	9.7	9.9
Divorces	1,175,000	1,163,000	4.7	4.7	4.8	4.8
Infant deaths	38,100	38,900	9.1	9.7	9.9	10.0

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.
Source. Monthly Vital Statistics Report (Vol. 39, No. 12) from the National Center for Health Statistics.

TAKE A NUMBER

The Absolute Numbers behind the 1991 World Population Data Sheet

Country or region (Country's world population rank in parentheses)	Population mid-1991	Projected population change 1991-2010	Annual births	Annual deaths	Natural increase	Annual infant deaths
World	5,383,886,000	1,805,324,000	142,960,000	50,418,000	92,543,000	9,658,000
More developed	1,218,774,000	126,410,000	17,603,000	11,430,000	6,173,000	239,000
Less developed	4,165,112,000	1,678,914,000	125,357,000	38,989,000	86,370,000	9,420,000
Less developed (excl. China)	3,013,812,000	1,409,914,000	101,111,000	31,309,000	69,803,000	8,620,000
Africa	676,579,000	478,655,000	29,566,000	9,507,000	20,059,000	3,011,000
Northern Africa	145,509,000	75,548,000	5,387,000	1,394,000	3,992,000	423,000
Western Africa	211,047,000	160,420,000	9,649,000	3,532,000	6,116,000	1,114,000
Nigeria (8)	122,471,000	90,571,000	5,389,000	2,021,000	3,368,000	643,000
Eastern Africa	204,143,000	162,904,000	9,781,000	3,103,000	6,679,000	1,061,000
Middle Africa	69,857,000	50,345,000	3,126,000	1,089,000	2,037,000	320,000
Southern Africa	46,023,000	29,438,000	1,624,000	389,000	1,235,000	93,000
Asia	3,154,735,000	1,042,364,000	84,242,000	27,006,000	57,236,000	5,751,000
Asia (excl. China)	2,003,435,000	773,364,000	59,995,000	19,327,000	40,669,000	4,951,000
Western Asia	134,443,000	88,116,000	4,825,000	1,156,000	3,670,000	306,000
Southern Asia	1,206,445,000	509,883,000	40,054,000	13,088,000	26,966,000	3,825,000
Bangladesh (10)	116,601,000	59,961,000	4,361,000	1,516,000	2,845,000	523,000
India (2)	859,192,000	298,590,000	26,205,000	8,764,000	17,442,000	2,385,000
Pakistan (9)	117,490,000	77,725,000	5,052,000	1,527,000	3,525,000	565,000
Southeast Asia	444,736,000	146,610,000	12,234,000	3,716,000	8,518,000	777,000
Indonesia (5)	181,366,000	56,491,000	4,534,000	1,451,000	3,083,000	331,000
East Asia	1,369,111,000	297,755,000	27,128,000	9,045,000	18,083,000	844,000
China (1)	1,151,300,000	269,000,000	24,246,000	7,679,000	16,567,000	800,000
Japan (7)	123,824,000	11,999,000	1,238,000	830,000	409,000	6,000
North America	279,739,000	50,888,000	4,588,000	2,396,000	2,192,000	41,000
United States (4)	252,783,000	46,247,000	4,196,000	2,199,000	1,997,000	38,000
Latin America	451,256,000	166,788,000	12,579,000	3,247,000	9,334,000	653,000
Central America	115,581,000	50,746,000	3,563,000	715,000	2,848,000	162,000
Caribbean	33,565,000	9,079,000	879,000	275,000	606,000	48,000
South America	302,110,000	106,963,000	8,137,000	2,257,000	5,880,000	442,000
Brazil (6)	153,322,000	54,131,000	4,186,000	1,211,000	2,974,000	264,000
Europe	502,254,000	17,929,000	6,317,000	5,128,000	1,188,000	71,000
Northern Europe	84,574,000	2,481,000	1,152,000	947,000	205,000	9,000
Western Europe	176,082,000	6,058,000	2,148,000	1,834,000	314,000	16,000
Eastern Europe	96,721,000	5,665,000	1,392,000	1,069,000	323,000	25,000
Southern Europe	144,877,000	3,725,000	1,624,000	1,278,000	346,000	21,000
USSR (3)	292,030,000	40,808,000	5,140,000	2,920,000	2,219,000	118,000
Oceania	27,293,000	7,892,000	528,000	213,000	315,000	13,000

ADDENDA

ZIPPY
"THIS YEAR'S MODEL"
BILL GRIFFITH
HI! I'M CRESILLIA!! TH' CORPORATE CLOWN!!
YOW! I FEEL A CORPORATE CHUCKLE RISING IN MY THROAT AS WE SPEAK!
©1991 Bill Griffith. World rights reserved. Distributed by King Features Syndicate
MY NAME AND LOOK WERE DESIGNED BY A MAJOR IMAGE CONSULTING FIRM ON TH' WEST COAST!
YOU'RE BENDABLE! YOU'VE GOT UPSELL BUY-IN!!
GRIFFY
2-19
TIP O' THE PIN TO JOYCE ZAVARRO!
I'M PERCEIVED OF BY THE 25-TO-45'S AS NOSTALGIC, FRIENDLY, FRISKY & SLIGHTLY IMPISH!
CALM DOWN, CRESILLIA. YOUR DEMOGRAPHIC BULGE IS SHOWING!

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 1875 Connecticut Ave., N.W., Suite 520, Washington, D.C. 20009-5728.

FUTURE DEMOGRAPHIC TRENDS IN EUROPE AND NORTH AMERICA: What Can We Assume Today? edited by Wolfgang Lutz. London: Academic Press, 1991. 585 pages. $50.00 hardback. ISBN 0-12-460445-5.

Europe and North America have transcended the problems of high fertility and soaring population growth that plague much of the rest of the world. As more developed countries, they instead face aging populations, influx of (sometimes) unwelcome Third World immigrants, and a constricting labor force. This volume, part of a larger series called *Studies in Population,* presents papers on these subject that in part arose from an October 1988 conference sponsored by the IIASA (International Institute for Applied Systems Analysis). The 25 papers by noted demographers examine the determinants of future growth in most of the industrialized world.

While the topics encompass the usual demographic variable—fertility, mortality, and migration—the specific issues underscore the very different demographic experiences in the industrialized and developing worlds. The seven papers disputing various estimates of human longevity, for example, could only be relevant to countries that have long since eradicated the major infectious diseases.

Lincoln Day's paper, subtitled "A dissenting view," suggests that all the hairsplitting about the maximum lifespan may be irrelevant because we are about to reap the deadly harvest of our arrogant treatment of mother earth. While he may overstate the risks, there already are reports of severe health problems from nuclear accidents and environmental degradation in the Soviet Union, one of the countries highlighted in the volume.

The future population size of more developed countries will depend most upon fertility levels. Even a large influx of immigrants could not slow the tremendous downward momentum toward population aging and eventual decline, according to these writers. Most agree that low fertility is here to stay, for a variety of social and economic reasons. Several papers explore the policy options for increasing fertility, which Charlotte Hohn describes as a near "hopeless battle against political and social forces. . . ."

Editor Wolfgang Lutz begins his introduction with the comment: "Projection is a difficult thing, particularly concerning the future." Perhaps readers should keep this tongue-in-cheek warning in mind when pondering the demographic future discussed in these papers.

—Mary Kent

DIVIDED FAMILIES: What Happens To Children When Parents Part, by Frank F. Furstenberg, Jr. and Andrew J. Cherlin. Cambridge, Mass.: Harvard University Press, 1991. 142 pp. $18.95 hard back. ISBN 0-674-655761.

Divided Families launches a new Harvard University Press series on the *Family and Public Policy*—"short volumes by scholars who seek the opportunity to step back from their research and communicate important conclusions to policymakers, practitioners, and the public at large."

It is indeed an excellent beginning, in which two seasoned family scholars examine the effect on children and family of the "new marriage system, in which parents get to choose new partners" through divorce and remarriage. Collaboration of authors and editors has achieved the readability that policymakers need through a nontechnical vocabulary, lively prose style, anecdotes drawn from case histories, and a strong sense of a story unfolding.

The authors discuss society's acceptance of divorce in recent decades, the emotional as well as the legal aspects of unraveling of marriage, children's emotional adjustment to divorce, the sharp loss of income that most divorcing mothers experience, custody, and child support issues.

Remarriage, which often binds up the financial wound inflicted by divorce, sets children into a new type of extended family—"thin kin." Contact with biological fathers declines rapidly, which also jeopardizes ties to paternal grandparents and other paternal relations.

Meanwhile the numbers of potential quasi-kin expand through their mother's remarriage(s). The extent to which these divorced parents and quasi-kin function as real "family" for children depends on active choice on both sides, vulnerable to the erosion of time.

The authors seem to doubt if absent fathers can be helped to play a larger role in their children's lives. For most fathers, whether absent or present "marriage and parenthood are a package deal. Their ties to their children and their feelings of responsibility for their children, depend on their ties to their [current] wives. . . .If the marriage breaks up, the indirect ties between fathers and children are also broken."

Policy prescriptions include helping the custodial parent to function after the breakup through more aggressive child support enforcement, welfare reforms, and mental health intervention. To shield children from conflicts between divorced parents, they recommend shared legal custody, but physical custody with the primary caretaker, and mediation of property disputes.

—Susan Kalish

SPOTLIGHT

TANZANIA

Population (mid-1991 est.): 26.9 million
Total area: 364,000 sq. mi.
Population density: 74 per sq. mi.
Births per 1,000 pop.: 50
Deaths per 1,000 pop.: 13
Rate of natural increase: 3.7 percent
Total fertility rate: 7.1 children per woman
Infant mortality rate: 102 infant deaths per 1,000 live births
Life expectancy at birth: 54 years
Capital: Dar-es-Salaam

by Gwenda Brophy

This vast territory, formerly the British East African colony of Tanganyika, obtained independence in 1961 and merged with the small islands of Zanzibar in 1964 to become the United Republic of Tanzania. Tanzania borders eight countries: Kenya, Uganda, Rwanda, Burundi, Zaire, Zambia, Malawi, and Mozambique. Massive Lake Victoria indents its northern border, while Lake Tanganika winds along its western edge, and Lake Malawi touches the south. The country's eastern edge is a 885-mile coastline washed by the Indian Ocean.

Julius Nyerere "The Teacher" ruled the one-party state for a quarter-century until 1985, when he stepped down and Ali Hassan Mwinyi became president in an uncontested election. After the 1967 Arusha Declaration championing "socialism and self-reliance," the banks, commerce, and industry were nationalized; state-owned marketing boards were created; and a policy of *ujamaa* or "villagization" was pursued. The policy apparently proved most successful in activities such as community pooling of resources to build schools and clinics. The government, however, could not always cope with the resulting demand for teachers, nurses, and drugs.

Tanzania grew poorer over the last 20 years despite $10 billion worth of foreign aid. It is currently one of the poorest countries in the world, with an estimated gross national product of $220 per capita. The vast majority of its workforce is in agriculture, fishing, and forestry, which accounted for 83 percent of the economically active population and 38 percent of the gross domestic product in 1985. The mainland is about equally divided among Christian, Moslem, and traditional African beliefs, with Zanzibar largely Moslem.

The country's 26 million population is one of the fastest growing in sub-Saharan Africa. At current rates of natural increase, the population doubling time is just 19 years. The government views population growth as too high, but has not drawn up a comprehensive policy. Tanzania has a young population (almost half is under 15 years of age) and a high infant mortality rate (102 infant deaths per 1,000 births). Average lifetime fertility is over seven children per woman.

The Ministry of Health Services makes contraceptive services available, but contraceptive use remains low nationally. The International Planned Parenthood Federation has established integrated projects that incorporate family planning, nutrition, and parasite control. In 1988, a community-based distribution project was initiated to expand services in the capital.

One-fifth of the population lives in urban areas, with about one-quarter of these in the capital, which grew from 150,000 people at independence to over 1.3 million today. During the 1980s, urban population growth averaged 11 percent a year, greatly straining the urban infrastructure. A lack of investment in infrastructure and ever-mounting population pressure in Dar-es-Salaam have contributed to a dilapidated state of buildings and roads, a near-collapse of public transportation, and strain on electrical, water, and sanitation services.

Rural areas also face infrastructure problems. Two-thirds of Tanzania's roads are impassable, making it difficult to market tea, coffee, and maize and adversely affecting domestic and export business.

The 1986 Economic Recovery Program is under way, and the private sector is responding hesitantly. A massive new World Bank project aims to rehabilitate the education system.

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Paul Conklin

1990 Census shows Hispanic Americans increased more than any other group (see page 3).

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FROM THE EDITOR'S DESK

The Population Scoop

Question: "Is world population going up or down?"
Answer: "Yes."

***

Can you blame us Washingtonians for being a bit confused about recent trends in world population growth?

With our May 14th breakfast coffee we read in the *Washington Post*: "U.N. Sees Global Fertility Drop, Birth Control Gains." Later, on our way to the office, we saw a very different headline in the *Washington Times*: "World Population Growing Rapidly."

Same story, same press release. Same U.N. annual report on the state of world population. Yet, two quite different messages emerged from the headlines. The problem? Each headline was telling only half the story.

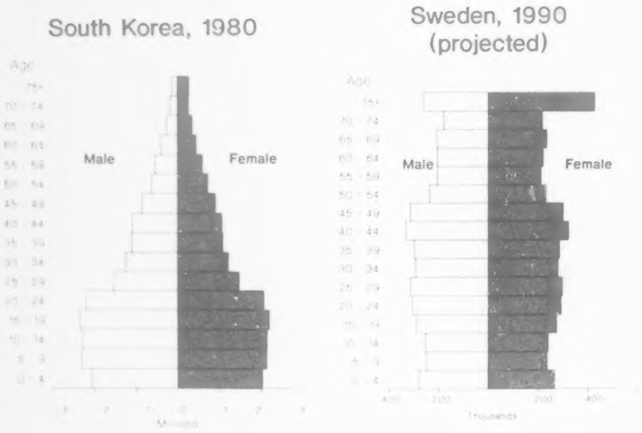
Today, world birthrates are slowing, but—because there are so many women of childbearing age—population nonetheless will continue to increase dramatically in the near future. Perhaps one can get this idea across in a public radio "soundbite," but it is not so easy in a headline.

The current dynamics of world population, while clear enough to population insiders, remain obscure to most of the general public. It seems likely that, throughout the 1990s, we will be struggling at least as much to get the message *right*, as to get the message *out*.

—*Susan Kalish*

SPEAKING GRAPHICALLY

Tucks and Turnouts



Two kinds of significant shifts can occur at the bottom of a country's age pyramid, as shown here. In South Korea, fertility decline led to a momentous event around 1980. The age group 0-4 became smaller than 5-9, that is, it "tucked under." In Sweden in 1990, years of dwindling cohort size was arrested by a rise in the birth rate, fending off the (to some) feared specter of population decline, as evidenced by the "turnout" at the bottom of the age pyramid. You'll never see the terms "tuck" or "turnout" in a demography text, but these are benchmark events nonetheless.

Sources. Statistisk arsbok, 1990 projection (Sweden); and U.N. *Demographic Yearbook, 1980* (S. Korea).

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* Educators and students should send supporting documentation

Recycled Paper

The Top 10 Findings from the 1990 Census (So Far...)

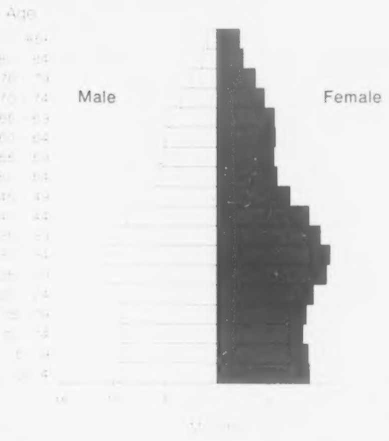
Now that publicity over 1990 Census results has diminished somewhat, what have we found out thus far? Were there any surprises? Here, in thumbnail form, are our choice of the "top 10" findings.

- **First, the count itself was lower than expected.** Officially, it's 248,709,873 *residents*, not counting armed forces overseas. The total number expected, based on precensal estimates was 250,172,000. Thus, the count fell about 1,462,000, or 0.6 percent, short of the expectation. In 1980, the count was 4.8 million *more* than expected, or 2.2 percent. The last two censuses have had the largest difference between the count and precensal estimates in modern history.
- **Three states grew by more than one-third.** The fastest-growing states in the 1980s were: Nevada (50.4 percent growth), Alaska (37.4 percent), and Arizona (34.9 percent). Four states lost population: West Virginia (-8.0 percent), Iowa (-4.7 percent), Wyoming (-3.7 percent), and North Dakota (-2.1 percent); these were joined by the District of Columbia, which lost 4.8 percent of its 1980 count.
- **Renewed growth in the Northeast, slowdown in the South.** The Northeast (up 3.4 percent) showed surprising growth in its coldest states. Maine, New Hampshire, and Vermont grew faster than the national average. As expected, the Midwest's population size just held its own, rising by just 1.4 percent. The South grew at a fast clip, 13.4 percent, but this was slower than the 20.0 percent gain of the 1970s. The West grew fastest of all (22.3 percent), led by California's increase of just over 6 million.
- **Hispanics and Asians grew rapidly.** In terms of numbers added, people identifying themselves as Hispanic topped all other groups by a wide margin. Their 7.7 million addition equalled more than twice the number added to the much larger black population (which grew from 26.5 million in 1980 to almost 30 million in 1990, an increase of 13.2 percent). The Hispanic addition was larger than the entire 1990 Asian and Pacific-Islander population. The number of people identifying themselves as Asians or Pacific Islanders grew faster than any other group, rising from 3.5 million in 1980 to 7.3 million in 1990. (But note that, due to data comparability problems, the official figure for growth among Asians and Pacific Islanders, 108 percent, is somewhat overstated; actual growth was more like 95 percent.)
- **Even more Americans live in big cities.** For the first time, the 1990 Census showed more than half of the nation's population living in large metropolitan areas—those with 1 million or more residents. From New York's Metropolitan Statistical Area of 18 million to Rochester's 1 million, these areas show how much the country has changed from the days it was called a "nation of farmers."
- **Population declines halted in many cities.** The 1990 Census figures showed that many large cities ended their long period of population decline. New York City, which had dropped from 7.9 million in 1970 to 7.1 in 1980 resumed modest growth, rising to 7.3 million in 1990. A few long-term decliners continued downward. Detroit, for example, dropped by about 15 percent, nearly falling below the 1 million mark.
- **There are more households containing fewer people.** The census showed that we have 102,263,678 housing units, the most ever, but overall household size was down from 2.8 to 2.6 persons. Only one state, California, had an increase in household size, from 2.7 in 1980 to 2.8 in 1990. The large vacancy rate was something of an eyebrow raiser—just over 10 percent of U.S. housing units were vacant in 1990.
- **Counts jumped in Puerto Rico.** One surprise was the unusually high population count in Puerto Rico, which as a U.S. commonwealth is included in the 1990 Census process. The island's population totalled 3,522,037. Prior to the census, it was thought to be about 3.3 million. Does this mean that there was higher return migration to the island than previously thought?
- **The undercount is estimated at 2 percent.** We include the undercount, since this issue has received so much attention this time around. A census adjustment would change the total population to about 254 million and would result in a whole new set of figures at all levels of geography—national, state, county, metropolitan. By the time you

Michael Siluk

For the first time, the census found more than half of us in big cities like this.

U.S. Population Pyramid 1990



Source. Bureau of the Census.

Continued on next page

Iran's Births Fall

Births in Iran have fallen sharply, by about one-fourth in four years, reports the *Iran Times*. The number of registered births in 1990 was 1,730,000, a 23 percent decline from 2,260,000 births four years earlier, according to a new report by the Interior Ministry. These numbers reflect Iran's calendar, which uses solar years that begin on March 21.

The drop almost certainly reflects actual changes in fertility. Although Iran's vital registration system is not complete, this fact would not affect the validity of the comparison, because both figures were subject to the same risk of under-registration. The numbers suggest that Iran's intensified family planning efforts over the past four years have had a big impact, particularly given that the number of marriages registered increased by 25 percent during the past two years.

—Nazy Roudi

Source. Iran Times, June 21, 1991.

Census

Continued from previous page

read this, the Secretary of Commerce will have made his decision on adjustment. No matter which way he decides the matter will most likely be before the courts (and in the news) for some time.

Baby boom moves up the population pyramid. Our last finding is in graphic form: the age and sex pyramid of the United States according to the 1990 Census (see page 3). Perhaps the biggest change from its 1980 counterpart is that the bulge produced by the baby boom may now be found in the 25-44 age brackets, rather than in the 15-34 brackets (its location a decade ago).

So, there we have it as of now. The rest of 1991 and 1992 will continue to be big years for census news as a steady stream of more detailed data are released—particularly the sample data on the "long" form, including income, labor force participation, living arrangements, family types, and education levels. Stay tuned.

—Carl Haub

SURVEY REPORT

Eastern Caribbean

Since 1985, the International Planned Parenthood Federation, Western Hemisphere Region (IPPF/WHR) has carried out a series of contraceptive prevalence surveys in eight eastern Carribean countries with funding from the U.S. Agency for International Development: St. Kitts-Nevis, Montserrat, Grenada, St. Vincent, Antigua, Barbados, St. Lucia, and Dominica (listed in the order the reports were published). These island nations have about 1 million people altogether and share common historical roots.

Growing up in Barbados.

The surveys provide up-to-date information on fertility levels and preferences, as well as contraceptive knowledge and use, necessary to estimate the need for family planning services in each country. Series author Tirbani Tagdeo covers similar ground for each country: socioeconomic, historical, and demographic background; demographic analysis (fertility patterns, desire for additional children, and breastfeeding data); contraceptive awareness (family planning methods and sources); contraceptive use (by method, source, and timing as well as satisfaction and male attitudes); the role of the family planning associations in the eight countries; non-users of contraceptives (never-users and drop-outs); and summary and conclusions.

Total Fertility and Contraceptive Prevalence in Eight Caribbean Countries

Country (survey date)	TFR	CPR
St. Kitts-Nevis (1984)	2.9	40.6
Montserrat (1984)	2.4	52.6
Grenada (1985)	4.9	33.0
St. Vincent (1988)	2.9	58.3
Antigua (1988)	1.8	52.6
Barbados (1988)	—*	55.0
St. Lucia (1988)	3.2	47.3
Dominica (1987)	3.2	49.8

Note. CPR (contraceptive prevalence rate) includes women age 15-44, in union.

*1988 TFR not given in the report; PRB's *1991 World Population Data Sheet* reports a TFR of 1.8 for Barbados.

Among the countries surveyed, Grenada stands out with the highest TFR (total fertility rate or lifetime births per woman) and lowest contraceptive prevalence rate (CPR) (see table). In other countries fertility in general is quite low and about half the women use family planning. Almost all the reported family planning used consists of modern methods.

All these islands have unusual demographic patterns because of extensive out-migration. Antigua has a TFR of 1.8, below replacement level, and yet only 52.6 percent of the women are practicing family planning. By contrast, northern Europe also has a TFR of 1.8, yet contraceptive prevalence is 80 percent. St. Vincent has a CPR of 58.3 percent, but a TFR that is higher by one child per woman than Antigua's. Migration can greatly affect age distribution and marital status, two variables that affect fertility levels.

As a set and individually, the surveys provide detailed demographic data to help policymakers understand the family planning needs in the eastern Caribbean.

—Nancy Yinger

The Reader's File

...The plight of the African-American male. We need to reexamine the educational system, acknowledge that racial discrimination persists in the workplace, and recognize the "plight of the black male for the grave and critical problem that it is." That's what eminent historian John Hope Franklin told the U.S. Congress May 21 during a first-ever conference devoted to the subject. The meeting—sponsored by the Senate Committee on Banking, Housing, and Urban Affairs—may signal a new direction for demographic family research. Observers such as William J. Wilson have long argued that employment constraints on black men have worked against the formation of stable black families.

...Employment discrimination. On the same note, one in five blacks experiences unequal treatment in applying for entry-level positions, says a recent working paper by the Urban Institute.

Opportunities Denied, Opportunities Diminished: Discrimination in Hiring, by Margery Turner, Michael Fix, and Ray Struyk, 2100 M Street, N.W., Washington, D.C. 20037. $8.00.

...U.S. population assistance in the 1990s. The population assistance programs of the U.S. Agency for International Development (USAID) have been "innovative" and "made an enormous contribution," says a new report from the Population Crisis Committee. But the program's future relies on commitment from Congress and the White House, more funding that is better allocated, repeal of abortion-related policy restrictions initiated in the 1980s, and a better understanding of the relationship between population growth and sustainable development.

U.S. Population Assistance: Issues for the 1990, by Shanti R. Conly, J. Joseph Speidel, and Sharon L. Camp. Population Crisis Committee, 1120 19th Street, N.W., Suite 550, Washington, D.C. 20036, 52 pp. $7.00.

...Child survival. In the 1980s, child survival rates improved in countries where USAID was active. This report documents specific interventions and covers 22 countries.

Child Survival 1985-1990: A Sixth Report to Congress on the USAID Program, U.S. Agency for International Development, Washington, D.C. 20523, (202) 649-4220. No charge.

—S.K.

Viet Nam: Population Paradox

Terence Hull

Ho Chi Minh City: Candy? Cigarettes? Condoms?

At the invitation of the Population and Community Development Association of Thailand (PDA), I visited Viet Nam last December, accompanying John Baker (who heads the MacArthur Foundation-funded South to South, Global Initiatives Program at PDA in Bangkok). We were told we were the first foreign male guests of the Viet Nam Women's Union (VNWU). Our purpose was to consult on the women's union's income-generating family planning projects.

Viet Nam—which is emerging from years of economic, political, and diplomatic isolation—faces considerable difficulties in achieving its ambitious population goal: to reduce growth from over 2 percent a year to about 1 percent by the year 2000. Viet Nam has low infant mortality (37 per 1,000 births) and a high literacy rate, with a declining but still high fertility rate (4.06 lifetime births per woman). Despite incentive programs favoring the two-child family, family planning has been difficult to implement, especially in the rural areas where 80 percent of the people live.

The VNWU, with 11 million members representing all levels of society, is becoming increasingly active in family planning. It has government-delegated responsibilities for education and motivation programs and, with PDA support, is planning to obtain regular sources of contraceptive supply and expand service activities. VNWU leaders sit on the government bodies that will make the decisions about establishing community-based contraceptive-distribution programs.

Viet Nam is a dramatic example of how a policy seemingly conducive to family planning can go awry. A population policy was promulgated in 1963. Government edicts and economic pressures motivated couples to have smaller families. These factors increased the demand for contraceptive services, but the demand is not being met, despite the government's official commitment to a cafeteria approach to modern contraceptives.

Problems include:

- The constraints of poverty within the country and a lack of foreign exchange to import modern contraceptives.
- Strong moralistic attitudes of both men and women, along with fears that the availability of contraceptives might encourage extramarital sex.
- An official unwillingness to provide contraceptives to unmarried women (who are, however, eligible to obtain abortions).
- The perception that already available methods (IUDs provided by UNFPA and locally produced condoms of irregular quality) can do the job.

Currently, Viet Nam is largely a one-contraceptive country—heavily reliant on the IUD. Women for whom an IUD is generally not recommended (those who have never had children, who have gynecological infections, or who have completed childbearing) are encouraged to continue use. Female sterilization is rare and vasectomy is strongly resisted. Many women, including the well educated, prefer rhythm or withdrawal with legal abortion as a backup. Condoms of diverse origin and uncertain quality—sold by street vendors in Ho Chi Minh City—are not widely accepted.

A massive community-based distribution program might turn things around if coupled with programs to desensitize the topic of sexuality and continued economic incentives.

—Henry P. David

Henry P. David is Director of the Transnational Family Research Institute in Bethesda, Maryland.

DEMOGRAPHER'S PAGE

Uncovering the Hidden Demographic History of the USSR

by Alain Blum

Censuses are often controversial, but only rarely are the results suppressed and the census officials arrested. But this is exactly what happened in the USSR in the late 1930s, when Joseph Stalin took a census with the intention of confirming his theory that population growth would flourish under the new socialist system. Stalin "canceled" the 1937 census of the USSR, and its results lay buried in the archives of the Central National Archives for half a century. Through glasnost, *Soviet scholars are getting a first glimpse of these and other buried population data. The results are transforming Soviet demographic history. PRB is pleased to provide our translation of this article, which appeared last winter in the French journal* **Population et Sociétés** *(no. 253, January 1991). —S.K.*

Soviet researchers are reconstructing the demographic history of the USSR during the 1930s, using archives that were inaccessible until now.

During that dramatic decade, forced collectivization of agriculture led to considerable loss of human life and to deportations. This upheaval of the peasant's world was a prime contributor to the famine of 1933—although the famine itself was denied by the Soviet leadership as well as by many in the West. It is now possible to gauge the breadth of the devastation wrought by Stalin's policies both at national and regional levels. In addition, the demographic consequences of the repression and forced migrations before World War II are slowly becoming clear.

Statistical history itself must be rewritten. The 1937 census was conducted—but then canceled by decree. Documents related to the census disappeared into the archives. For 50 years, no results were released. Another census, held in 1939, yielded only two or three pages of statistics. Thanks to the opening of most of the statistical archives, Soviet demographers and historians have recently confirmed and specified what many suspected. Although their conclusions are still provisional, their work seems sufficiently well founded to be presented.

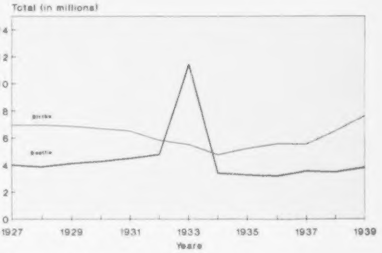
The 1937 Census

During the 1930s, there was a tension between the political use and manipulation of statistics and the high-quality work of organizations charged with data collection (in particular the CUNKhU, central office of statistics at that time). It is now known that there existed two series of demographic statistics, one for publication, the other for internal use. On one hand, a considerable effort was made to improve the quality of the statistics: for example, to make child death registration more complete. On the other, officials manipulated statistics so that they buttressed Stalin's belief that higher rates of population growth could be achieved under a socialist regime than under a capitalist system.

Several decrees succeeded each other between 1934 and 1936 to improve registration statistics, but the decennial census of 1930 was usually reported instead, probably to avoid admitting that population growth was, in fact, stagnant. When Osinskij, director of CUNKhU, wrote to Molotov to insist on the urgency of a census, his demand was ignored. The answer eventually came in the form of Osinskij's ouster. In 1936, the commission created to prepare the census included mainly important political figures (Molotov, Kaganovitch, Mikojan, and others) and very few demographers. Stalin himself took part, adding a question on religion.

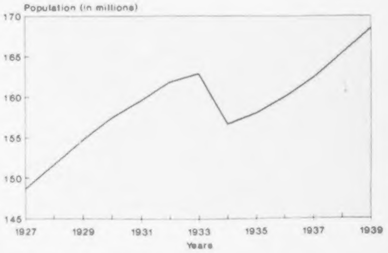
For the 1937 count, Stalin had predicted 170 million inhabitants, but the census counted only 162 million. The census was "canceled" by decree, and all those who had organized and managed the census were arrested. I.A. Kraval, director of CUNKhU, died in 1939. O.A. Kvitkin, director of the census bureau, was shot in 1939. L.S. Brand, director of the department of population of CUNKhU, died in a labor camp in 1942. His deputy Kurman, to whom we owe a desperate but lucid analysis of the results of the 1937 census, was deported. These few examples give a partial picture of Stalin's desire to punish those considered responsible for the "undercount." But curiously, the archives were not destroyed, and thankfully *glasnost* has made them accessible.

Figure 1. Births and Deaths, USSR 1927-1939



Note: Territory of the period.
Source: Based on Soviet census data.

Figure 2. Population Growth, USSR 1927-1939

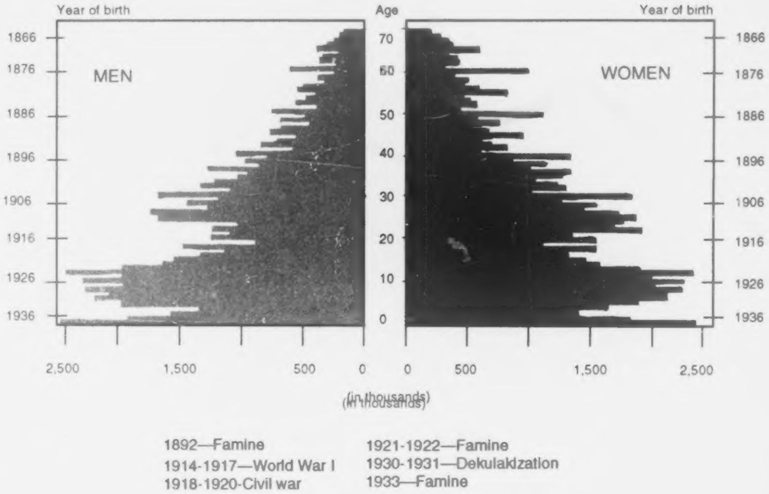


Note: Territory of the period.
Source: Based on Soviet census data.

Alain Blum is Head Researcher
at the Institut nationale d'études démographiques
in Paris, France

The census was taken again in 1939. The first estimates showed 168 million inhabitants, a number lower than the forecasts. The director of statistics then estimated, "after verification," that they had missed about 2 million people and therefore the population was officially set at 170.2 million.

Figure 4. USSR Age Pyramid from 1937 Census



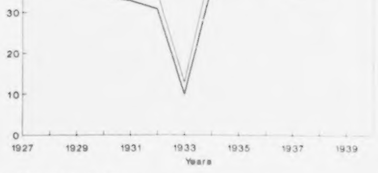
Notes. Territory of the period. These data are not corrected for age heaping, which occurs when people misreport their year of birth as the nearest turn of the decade, producing an uneven pattern in an age pyramid.
Source. Based on central archives data.

The Famine of 1933

Meanwhile, despite the political furor over census data, the civil state quietly pursued its routine vital registration work. The 1933 famine, the breadth of which was terrible, did not stop the ZAGS (the civil-state bureau) from counting the deaths: the numbers in certain regions increased six-fold in a matter of months. The documents are accessible, but unfortunately at times incomplete.

The evolution in the number of births and deaths, and in population size, gives a preliminary outline of the demographic history of the USSR in the 1930s. The principal remaining uncertainty concerns the exact magnitude of the excess mortality of 1933, since the estimation depends on the method used to generalize the available data for the entire country. It is possible, for example, that some of the deaths attributed to the famine year actually occurred earlier. On the other hand, these estimates may have underestimated emigration from the USSR during this period, which would result in a slight overestimate of mortality.

Figure 3. Life Expectancy, USSR 1927-1940



Note. Territory of the period.
Source. Based on Soviet census data.

The famine was sudden and severe. In 1933, the number of deaths increased by about 2.5 times (see Figure 1), while the population decreased by more than 6 million inhabitants, or more than 3 percent (see Figure 2). The population did not achieve pre-1933 levels again until 1937, and it was still far from the 170 million that Stalin wanted. In addition, the regional impact is important. The famine was concentrated in the Ukraine, the region of the lower Volga, and the north Caucasus. In rural Ukraine during the six months prior to the famine (September 1932 to February 1933), there were 46,000 deaths a month; from March 1933 to August 1933, there were 208,000 deaths per month, or 4.5 times more.

Before the famine, the growth rate of the Soviet population had been decreasing due to other factors. The so-called "dekulakization" culminated in February-April 1930. Implemented at the same time as the campaign for total collectivization of the peasant farms, dekoulakization consisted of imprisoning some of the kulaks ("rich" peasants, a notion that remained very vague) and deporting their families to Siberia, Kazakhstan, or the Urals. Some of the "luckier" kulaks were exiled along with their families to these same regions, or transferred within their region, but outside the farming areas. An estimated 380,000 families (or more than a million people) were exiled to far away regions; while 450,000 families (from 2 to 3 million people) were transferred outside farming areas, and 200,000 to 250,000 families fled.

These events greatly affected mortality. As Figure 3 shows, children born in 1933 had very little chance of survival. Also, fertility dropped dramatically and remained at relatively low levels through the remainder of the decade.

The beginnings of dekulakization resulted in slower growth as early as 1930. The repression associated with dekulakization widened the gap in the life expectancies of men and women by 1935 (see Figure 3).

Continued on next page

Demographer's Page
Continued from previous page

1937 Census Findings

The 1937 census, which appears to be of good quality, gives us material of particular interest today. Figure 4 presents the age pyramid, uncorrected for age heaping, which gives it an uneven appearance. The larger indentations mark the deficits of births during the periods of crisis: World War I, the Civil War, and famines. The excess of male deaths during the wars is reflected in the low male-to-female sex ratio.

Several questions that appeared on the census questionnaire are of considerable interest, such as profession and illiteracy. The question on religion produced uncertain results, because people questioned by census takers may have been afraid of answering honestly. Many documents show this; one worker indicated that he believed in "the devil, God, and Stalin." Meanwhile, the proportion of individuals who declared themselves as "believers" is striking. Fifty-seven percent of those 16 years and older classified themselves as believers, and some 50 percent declared themselves Orthodox Christian.

It is also possible to reestimate the losses during World War II. Instead of 20 million, the official number cited until quite recently, we estimate about 26 million excess deaths, directly or indirectly due to the hostilities from June 1941 to December 1945. These are deaths over and above those that would have occurred under the conditions prevailing prior to 1941. However, a detailed analysis is lacking. The changes in the political map of Europe in 1945 and the mass migrations of population during and after the war add to our difficulties.

Beyond these reestimations, data on the direct victims of repression, on the imprisoned, and on people in work camps are becoming accessible. But they are still imprecise, and the central archives to this day remain difficult to access. At least, however, the demographic impact of World War II, which has never been completely established, now lies within reach of demographic historians.

WASHINGTON WATCH

This spring, Congress and the Bush Administration set out to rewrite the Foreign Assistance Act under a new set of guidelines hammered out last year. The new system was designed to improve programmatic flexibility by eliminating funding earmarks for functional areas, such as security, environmental, or population assistance. Although the administration submitted its request without specifying funding levels for specific purposes, Congress quickly moved to protect certain areas, including population assistance.

Congressional Earmarks

First, the House Foreign Affairs Committee earmarked $130 million for child survival. Rep. Peter Kostmayer (D-PA) added two amendments: a guarantee that population activities would receive at least $300 million for FY 1992 and a move to renew support to the United Nation Fund for Population Assistance (UNFPA), which the Reagan Administration defunded in 1985. Rep. Jan Meyers (R-KS) added an amendment to overturn the Reagan Administration's so-called Mexico City policy, which the Bush Administration strongly supports. The Mexico City policy denies U.S. funds to foreign, nongovernmental, family planning organizations that provide abortion-related services or information, even through their own private funds. The House approved all these measures.

The House of Representatives also approved a measure, introduced by Rep. Bill Green (R-NY), to provide $20 million to UNFPA strictly for contraceptive procurement (excluding China).

In addition, the House raised funding for the Development Fund for Africa to $1 billion (an increase of $200 million over FY 1991), 10 percent earmarked for population activities. Family planning assistance to Romania was renewed at $1.5 million, with an added $1.5 million for AIDS programs, and $1 million for adoption services.

Major differences exist between the House and Senate bills. The House set total population appropriations at $300 million, the Senate at $250 million. Like the House, the Senate version includes an amendment to overturn the Mexico City policy (introduced by Sen. Nancy Kassebaum [R-KS]), but no measure to refund UNFPA.

The House and Senate will reconcile their differences late this summer or early fall. President Bush has already promised to veto any bill that contains any provision to overturn the Mexico City policy, or to refund UNFPA. Although the President's veto seems insurmountable, Congressional support has been gathering for a change in policy, and too many vetoes take a toll on Congressional goodwill.

Rust v. Sullivan

On the domestic side, the House voted to reverse *Rust v. Sullivan.* In its May 23 decision, the Supreme Court upheld the so-called "gag rule," which prohibits family planning clinics that receive Title X funding from providing clients with any information on abortion options. Prior to the decision, clinics operated on the principle of "informed consent," which means that health personnel must tell a patient about all medical options that are legally available. Under *Rust*, Title X clinics would either have to halt counseling procedures based on informed consent or lose their federal funding. For example, Planned Parenthood of America stands to lose $35 million, or 12 percent of its overall budget. Since the Supreme Court no longer appears to be a favorable venue, pro-choice advocates will now shift their attention to the Congress.

—Mark Haskell

Mark Haskell is the international program officer at the Population Resource Center.

POSITIONS/ PROFESSIONALS

Rockefeller Foundation Visiting Staff Associate, East Africa. This new education program emphasizes female education, efforts to popularize science and technology among Africa youth, and higher education initiatives. Duties include program development, coordination, and monitoring; seminar and workshop planning; and cooperation with universities, government agencies, and private organizations engaged in research, training, and social action. Applicant must have research or program experience related to African education or economic development, demonstrated managerial competence, academic achievement, analytic writing skills, and sensitivity to relationships in multi-cultural and multi-disciplinary settings. Desired qualifications include an earned Ph.D., preferably in economics, sociology, anthropology, or related field; prior residency in Africa; and familiarity with various forms of communication media.

For more information, contact: Heather Bent Tamir, Office of the Senior Vice President, The Rockefeller Foundation, 1133 Avenue of the Americas, New York, NY 10036, (212) 869-8500; fax (212) 764-3468.

The Rockefeller Foundation African Dissertation Internship Awards. Doctoral students from sub-Saharan Africa are invited to apply for dissertation research support. The program enables Ph.D. students enrolled in U.S. and Canadian universities to return to Africa for extensive field research in areas relevant to economic development or poverty alleviation.

Priority is given to research topics in agriculture, health, and life sciences—but other proposals are welcome. Deadlines for applications are October 1, 1991 and March 1, 1992. Candidates should apply well in advance of their expected field work starting dates.

For more information, contact: African Dissertation Internship Awards, The Rockefeller Foundation, address above.

SOFTWARE

PopMap. Designed for use in population field offices overseas, PopMap supports a variety of population activities with maps and graphics. The software dynamically links a population database with retrieval tools that can display statistical data in a spreadsheet format as well as draw maps and graphics. PopMap operates through a series of menus and can set up a simple geographic information system.

The system is designed for demographers, statisticians, planners, program managers, and decisionmakers with little or no prior computer experience in database management, graphics, or map manipulation. Users must, however, understand basic data retrieval principles. Maps must be entered with a digitizer, mouse, or keyboard. PopMap includes an exploratory loop that allows the user to ask "what if" questions of the data.

PopMap is designed to run on an IBM-compatible microcomputer; 80286, 80386/SX processor with 640KB RAM, 40MB fixed disk storage (hard disk with minimum 5MB free space); EGA or VGA color graphics display; DOS operating system. Provided free to UNFPA offices, PopMap's commercial price is still being decided, but will not exceed $300.

For information on this and other U.N. population software (much of it available at low cost or free of charge), contact: Project Coordinator, Software and Support for Population Data Processing, UN/DTCD, United Nations, Room DC2-1570, New York, NY 10017.

—S.K.

POPULATION UPDATE

Estimated United States Population:

As of April 1, 1991	251,975,000
As of April 1, 1990	249,246,000

The above estimates, based on the 1990 Census, include armed forces overseas and are from U.S. Bureau of the Census *Current Population Reports*, Series P-25, No. 1073.

Estimated World Population:

As of August 1991	5,392,000,000
Annual growth	93,000,000

Extrapolated from the mid-1991 population on PRB's *1991 World Population Data Sheet.*

Latest Provisional Statistics for the U.S.: February 1991

	12 months ending with February					
	Number		Rate			
	1991	1990	1991	1990	1989	1988
Live births	4,175,000	4,060,000	16.6	16.3	15.9	15.8
Deaths	2,144,000	2,170,000	8.5	8.7	8.8	8.8
Natural increase	2,031,000	1,890,000	8.1	7.6	7.1	7.0
Marriages	2,456,000	2,425,000	9.8	9.7	9.7	9.8
Divorces	1,185,000	1,161,000	4.7	4.7	4.8	4.7
Infant deaths	38,000	39,000	9.1	9.7	9.9	10.0

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.
Source. Monthly Vital Statistics Report (Vol. 40, No. 2) from the National Center for Health Statistics.

LETTER TO THE EDITOR

The recent article by Carl Haub and Machiko Yanagishita on "Infant Mortality: Who's Number One?" [see *PT*, March 1991] was a real contribution to the subject. It rightly stressed the national differences in what constitutes a birth in official definitions. (They might have gone on to mention the even larger differences in the national official definitions of a "stillbirth.")

Another factor is that the infant mortality rate as usually computed is *not* based on the number at risk. The infant deaths (under age one) in a given calendar year arise partly from the births in the previous calendar year, and some of those from the cohort in question will appear as infant deaths in the next calendar year. This is important when birth cohorts are changing rapidly. [To correct for this problem, see Shryock and Siegel, *The Methods and Materials of Demography*.]

All the alarm in the popular press about the fact that the United States is not *"Number One"* (why does it have to be?) is largely a tempest in a teapot.

Our rate of 9.1 is not all that far from Finland's 5.8 in the perspective of time and place. Our rate was over 50 in the early 1930s and has declined almost every year thereafter. According to your *1991 World Population Data Sheet* the average for all the "developing countries" is 75. The District of Columbia's rate, 23.1 in 1989, is nowhere near that. It would be an anachronism to call Hong Kong, South Korea, Taiwan, or Singapore (where infant mortality rates are lower than the U.S. rate) "developing countries."

—Henry S. Shryock, Jr.

TAKE A NUMBER

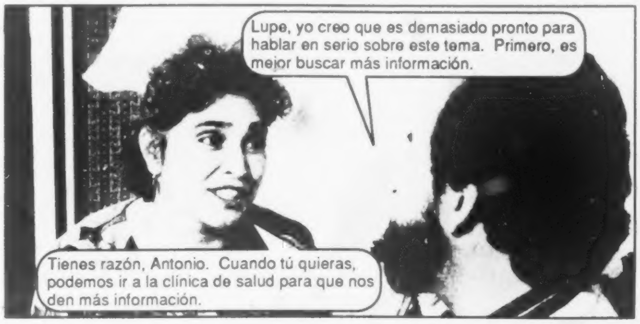
The World Population Clock 1991

		World	More developed countries	Less developed countries	Less developed (less China)
Mid-1991 population		5,383,886,000	1,218,774,000	4,165,112,000	3,013,812,000
Births per:	Year	142,960,000	17,603,000	125,357,000	101,111,000
	Month	11,913,333	1,466,879	10,446,421	8,425,890
	Week	2,741,691	337,582	2,404,101	1,939,104
	Day	391,671	48,226	343,444	277,016
	Hour	16,320	2,009	14,310	11,542
	Mintue	272	33	239	192
	Second	4.5	0.6	4.0	3.2
Deaths per:	Year	50,418,000	11,430,000	38,989,000	31,309,000
	Month	4,201,500	952,471	3,249,042	2,609,112
	Week	966,918	219,198	747,723	600,451
	Day	138,132	31,314	106,818	85,779
	Hour	5,755	1,305	4,451	3,574
	Minute	96	22	74	60
	Second	1.6	0.4	1.2	1.0
Natural increase per:	Year	92,543,000	6,173,000	86,370,000	69,803,000
	Month	7,711,917	514,417	7,197,500	5,816,917
	Week	1,774,792	118,386	1,656,406	1,338,684
	Day	253,542	16,912	236,630	191,241
	Hour	10,564	705	9,860	7,968
	Minute	176	12	164	133
	Second	2.9	0.2	2.7	2.2
Infant deaths per:	Year	9,658,000	239,000	9,420,000	8,620,000
	Month	804,833	19,889	784,974	718,297
	Week	185,221	4,577	180,651	165,306
	Day	26,460	654	25,807	23,615
	Hour	1,103	27	1,075	984
	Minute	18	0	18	16
	Second	0.31	0.01	0.30	0.27

Source. PRB's *1991 World Population Data Sheet.*

ADDENDA

In this *Novela de Amor* (Story of love), Lupe and Antonio have been happily married many years and have three children—all they want. Lupe brings up the option of surgical sterilization. Antonio, at first reluctant to discuss it, finally becomes open to learning more. Photographs with captions relate how this appealing Hispanic couple and their friends engage with the issue. Produced in Spanish for use in the United States by the Association for Voluntary Surgical Contraception, (212) 351-2555.


Lupe, yo creo que es demasiado pronto para hablar en serio sobre este tema. Primero, es mejor buscar más información.
Tienes razón, Antonio. Cuando tú quieras, podemos ir a la clínica de salud para que nos den más información.

"Lupe, I think that it's too early to discuss this seriously. First we should look for more information."
"You're right, Antonio. When you want, we can go to the health clinic so they can give us more information."

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 1875 Connecticut Ave., N.W., Suite 520, Washington, D.C. 20009-5728.

MATHEMATICS AND GLOBAL SURVIVAL, by Richard H. Schwartz. 2nd ed. Needham Heights, Mass.: Ginn Press, 1990. 197 pages. $32.75 paperback. ISBN 0-536-57540-1.

This textbook is a useful and innovative resource for teachers looking for real-world examples to teach basic mathematical operations or statistical and population concepts. It is appropriate for college or high school students.

As our world becomes increasingly interdependent, students must be equipped with a more sophisticated range of information and mathematical tools. This interdisciplinary text introduces students to current global issues, while providing instruction on basic mathematical and statistical concepts (basic calculations, percentages, ratios, graphs, sequences, elementary statistics, probability, and problem-solving techniques).

The book reprints PRB's *World Population Data Sheet* and uses it to introduce students to basic demographic indicators and calculations. Segments on sequencing and graphing also make use of population data. Topics include the arms race, energy, health, hunger and food, smoking, pollution, economic development, resources, transportation, waste, and women's issues. Dr. Schwartz is careful to provide enough information so that students understand the calculations and learn to interpret graphical data critically.

Exercises reinforce the lessons of each chapter. The appendices include bibliographies on mathematical and global issues, a list of organizations involved in global issues, an opinion survey, and topics for futher investigation. The number of inquiries that I have received in my work with population education suggests that this type of text is much needed.

—Kimberly Crews

REGIONAL SURVEY OF THE WORLD: The Middle East and North Africa 1991 by Europa Publications Limited. 37th ed. London, 1990. 984 pages. $245.00 hardback. ISBN: 0-946653-60-7.

In its 37th edition, Europa's *Regional Survey of the World: The Middle East and North Africa, 1991* remains the preeminent annual reference devoted to the contemporary Middle East. It provides the most comprehensive survey on all the countries in the region.

Essays on topics and issues of interest place current developments in the broader perspective of the region's social, political, and economic history. Capsule summaries cover all the important events of the region since World War II. Also included are a list of research institutes involved in the study of the Middle East, a bibliography of books and periodicals, and the history and activities of 33 regional organizations such as OPEC, the U.N., the Arab League, and the Islamic Development Bank.

Each country profile covers geography, recent history, and the economy, with an excellent directory of important organizations and officials. Economic and demographic information are provided, along with the latest statistics on population, agriculture, industry, finance, trade, transport, tourism, and education. Anyone whose work relates to the Middle East should be familiar with this volume. Other Europa yearbooks cover other regions and the world.

—Nazy Roudi

BOOKS RECEIVED

World Population Growth and Aging: Demographic Trends in the Late 20th Century, by Nathan Keyfitz and Wilhelm Flinger. Chicago: University of Chicago Press, 1991. 608 pages. $65.00 hardback. ISBN 0-226-43237-8.

Persistent Inequalities: Women and World Development, edited by Irene Tinker. New York: Oxford University Press. 1990. 302 pages. $34.50 hardback. ISBN 0-19-5050935-2.

Statistical Handbook on U.S. Hispanics, compiled and edited by Frank L. Schick and Renee Schick. Phoenix, Ariz.: The Oryx Press, 1991. 225 pages. $49.50 hardback. ISBN: 0-89774-554-X.

The New Chosen People: Immigrants in the United States, by Guillermina Jasso and Mark R. Rosenzweig for the National Committee for Research on the 1980 Census. New York: Russell Sage Foundation, 1990. 460 pages. $55.00 hardback. ISBN 0-87154-404-0.

Handbook on International Migration, edited by William J. Serow, Charles B. Nam, David F. Sly, and Robert H. Weller. Westport, Conn.: Greenwood Press. 1990. 385 pages. $65.00 hardback. ISBN 0-313-26117-2.

Determinants of Emigration from Mexico, Central America, and the Caribbean, ed. by Sergio Diaz-Briquets and Sidney Weintraub. Boulder, Co.: Westview Press, 1991. 356 pages. $46.50 paperback. ISBN 0-8133-8142-8.

The Unfinished Story: Turkish Labour Migration to Western Europe, with special reference to the Federal Republic of Germany by Philip L. Martin. Geneva, Switzerland: International Labor Office, 1991. 123 pages. $20.00 paperback. ISBN: 92-2-107292-4.

Social Indicators of Development 1990, World Bank. Baltimore, Md.: The Johns Hopkins University Press. 357pages. $24.95 paperback. ISBN 0-8018-4159-3.

Population Geography, 2nd ed., by Huw Jones. London: Paul Chapman, 1990. 321 pages.$28.00 paperback. ISBN 1-85396-071-3.

Trees of Life: Saving Tropical Forests and Their Biological Wealth, by Kenton Miller and Laura Tangley. Boston: Beacon Press, 1991. 217 pages. $9.95 paperback. ISBN 0-8070-8503-0.

Statistical Handbook on U.S. Hispanics, compiled and edited by Frank L. Schick and Renee Schick. Phoenix, Ariz.: The Oryx Press, 1991. 225 pages. $49.50 hardback. ISBN: 0-89774-554-X.

Population of Fiji, by Rajesh Chandra and Jenny Bryant. Noumea, New Caledonia: South Pacific Commission, 1990. 258 pages. ISBN: 982-203-046-0. [Population Monograph No. 1]

SPOTLIGHT

MYANMAR (BURMA)

Population (1990 est.): 41 million
Land area: 261,228 sq. mi.
Pop. density: 157 per sq. mi.
Births per 1,000 pop. (1988): 32
Deaths per 1,000 pop. (1988): 12
Rate of natural increase (1988): 2 percent
Total fertility rate (1988): 3.9
Infant mortality rate (1988): 68 per 1,000 live births
Life expectancy (1988): 60 years
GNP per capita (1987 est.): $200
Capital: Yangon (formerly Rangoon)

by John F. May

BANGLADESH
INDIA
MYANMAR
Mandalay
Irrawaddy River
Mekong River
CHINA
LAOS
THAILAND
Mekong River
CAMBODIA

Of all the countries in Southeast Asia, one of the least known is the Union of Myanmar, called Burma until May 1989. Myanmar, about the size of Texas, lies on the vast fertile plain of the Ayeyarwady (Irrawaddy) River surrounded by a horseshoe-shaped range of mountains. Over the last 40 years, the country's geographical isolation has been compounded by autonomy conflicts fought on the country's borders by various ethnic groups seeking a greater role in national government. In addition, since 1962, the country's rulers followed a deliberate policy of self-reliance, as a component of the Burmese way to socialism. But now the country has opened its doors somewhat to foreign contacts, seeking more economic opportunities in neighboring countries and technical assistance from donor nations and development institutions.

The limited demographic information available suggests that the population of Myanmar has undergone a slow demographic transition. In 1983, at the time of the latest census, the total fertility rate (TFR, or average lifetime births per woman) was estimated (using indirect techniques) at 5.2 children per woman. The fertility decline might have stalled between 1973 and 1983, but today the TFR is probably below 4.0, a medium value in Southeast Asia. This suggests the use of birth spacing or birth-limiting methods, or both. Meanwhile, mortality levels have decreased (life expectancy at birth is estimated at 60 years), although infant mortality is likely to be higher than the official figure. The rate of natural increase is estimated at 2 percent per year, which would lead to doubling in about 35 years.

Because Myanmar has a low population density and shares common borders with the two most populous countries in the world, China and India, prominent leaders have advocated a pronatalist policy in the past. However, the government of Myanmar has recently become aware of the challenges posed by a fast-growing population. In particular, it will have to improve the (currently poor) quality of social services to meet the growing demands of an increasing population.

These new perspectives on population issues have already brought about important policy changes. The concept of birth spacing as a key step toward the improvement of maternal and infant health has been acknowledged for the first time. There is now full recognition of the detrimental effects of induced abortion on maternal mortality rates and an awareness that high abortion rates indicate an unmet demand for modern family planning services. About 40 percent of maternal deaths in the country are believed to be attributable to poorly performed abortions.

Available evidence suggests a fairly high knowledge of modern contraceptive methods among Burmese women of reproductive age. Popular attitudes toward birth spacing and female sterilization are positive. Even so, levels of contraceptive prevalence remain rather low, as modern contraceptives are not readily available. (Some contraceptives are smuggled from neighboring countries such as Thailand and China, which have stronger family planning programs.) Possibly 20 to 25 percent of married women of reproductive age use family planning, and half of these may rely on traditional methods. It is therefore assumed that induced abortion plays a key role, and hospital statistics support this view.

How Myanmar was able to begin its fertility transition despite its isolation and lack of a full-fledged national family planning program is unclear. A national fertility survey was conducted in January 1991 and is now being processed. Only more data on fertility and contraceptive use can throw further light on the distinctive patterns of reproductive health and fertility control in Myanmar, and help reduce the high incidence of induced abortion.

John F. May, Senior Staff at the Futures Group, will be PRB's visiting scholar for 1991-1992. The author is grateful for the assistance received from the Department of Planning and Statistics at the Ministry of Health and the UNICEF Office in Myanmar.

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R. [illegible]

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Planned Parenthood Federation of America, Inc

Black families headed by married couples did best economically in the 1980s. (See story page 5.)

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FROM THE EDITOR'S DESK

Adjustment by a thousand cuts. Commerce Secretary Robert A. Mosbacher may have turned thumbs down on adjusting 1990 Census figures, but this does not necessarily mean that heavily undercounted urban and minority areas are stuck with the consequences. Besides a full-blown court challenge, a myriad of small, indirect "adjustments" may come into play.

In his post-decision appearance before the House Subcommittee on Census and Population, July 16, Mr. Mosbacher took a lot of heat from representatives Mervyn Dymally (D-CA), Charles Hayes (D-IL), Pat Schroeder (D-CO), and Eleanor Holmes Norton (D-DC). Already hard-hit minority and poverty communities will be additionally short-changed, they charged, when funds for about 60 federal programs are distributed based on 1990 undercounts. Mosbacher countered that Congress—not the Census Bureau—sets the formulas by which federal funds are distributed. Congress, he suggested, can change them through a political process.

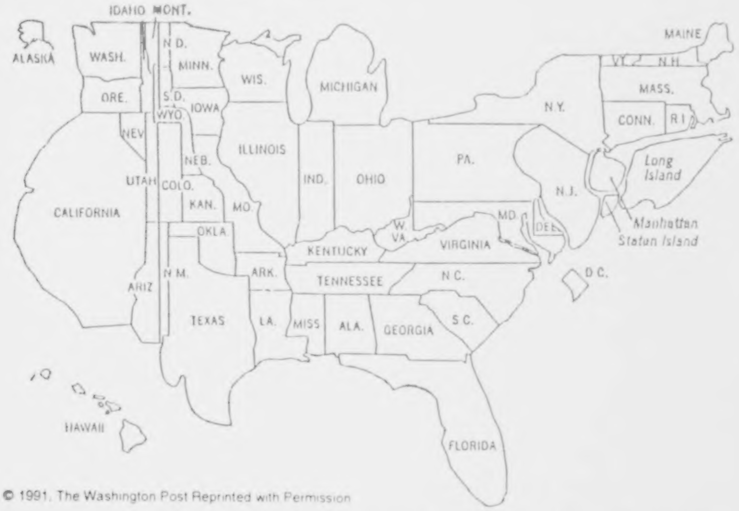
Political inequity arising from the undercount is another unresolved issue. If we draw voting districts according to census counts that demonstrably undercount minority communities, the "one person, one vote" rule of the Voting Rights Act is threatened. However, here, too, indirect adjustments could obviate the effect of the undercount. Other states may follow Virginia's example, which "underpopulated" and "overpopulated" certain legislative districts to compensate for undercounts in the heavily black tidewater cities. In *Mena v. Mosbacher*, a Texas redistricting case, the Hispanic community plans to introduce the issue of the undercount.

Most of these alternatives to adjustment, however, require access to adjusted counts at the block level—something Mr. Mosbacher in July was not prepared to release, and that California has filed a Freedom of Information Act suit to obtain.

—Susan Kalish

SPEAKING GRAPHICALLY

States by Population Size: 1990



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Here's a U.S. map with a difference! State boundaries are drawn to scale by 1990 *population size* instead of land area.

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Threatened Census Cuts Cause Jitters

As Congress reconvenes to complete its annual battle of the budget this September, demographic data users will be watching one particular line item with anxiety: funding for the Census Bureau to produce data products from the 1990 Census.

Before its August recess, the Senate slashed $30 million—over one-third the total—from FY 1992 funding for activities to complete the 1990 Census cycle. Senator Ernest Hollings (R-SC), chairman of the Subcommittee for Commerce, Justice, State, and the Judiciary of the Senate Appropriations Committee, proposed the cut in July. (The Senator is perhaps best known for the "Gramm-Rudman-Hollings Act" of 1985, which set up automatic, across-the-board budget cuts if Congress and the President could not agree on a balanced budget.)

The Appropriation Committee of the House of Representatives did not make such a sizable cut, but did shave $2.6 million from the total "periodic programs" account. This month, a House-Senate conference committee will resolve differences between the two versions.

Exchange of Views

After receiving, according to one committee staffer, "hundreds of calls" on the matter, Sen. Hollings entered into a "colloquy" (a statement of position placed in the *Congressional Record*) with Sen. Paul Sarbanes (D-MD), Herbert Kohl (D-WI), and Warren Rudman (R-NH) on "the importance of the 1990 decennial census products."

As chairman of the House-Senate Joint Economic Committee, Sen. Sarbanes expressed his concern that "a cut of this magnitude could seriously hamper the ability of the Census Bureau to analyze and disseminate the data collected in the 1990 decennial census."

"After the enormous resources we have devoted to the census over the last decade, it would be simply illogical to throw away much of that effort now."

Sen. Sarbanes also moved to clear up some apparent confusion over whether the Census Bureau had sufficient carryover funds from FY 1991 to cover the gap. The bureau, he said, has only a "small" unobligated balance that will be spent through delayed procurement of data processing and specific programs to be completed within the next two or three months.

Sen. Kohl, as chairman of the Governmental Affairs Subcommittee on Government Information and Regulation, urged restoration of full funding. He pointed out that "census data will be used by local communities to plan for the future." He added, "without these data it would be impossible to plan roads and water treatment."

Sen. Hollings stated that, even with the proposed cuts in effect, "it is my understanding that the Census Bureau will have the funds necessary to complete the 1990 Census." Nevertheless, he said, "I will look into this matter further. If, as the Senator [Sarbanes] said, the carryover funds do not appear to be sufficient, then I would be prepared to make an effort to restore funds to this account."

Effect on Census Products

Because the cut proposed by the Senate goes so deep, even a compromise could be severe enough to cause delays or abandonment of planned census products—from the tried and true (such as data on microfiche), to high-tech innovations (such as providing data on CD-ROM [read-only-memory] discs). All this would be bad news for the diverse group that the Census Bureau generically refers to as "data users": academic researchers, statisticians, business marketers, epidemiologists, planners, politicians, program providers, students, public opinion pollsters, libraries, and others.

Although the general public might consider the 1990 Census as "over with," the bureau actually has just begun its reporting. The basic head counts--population by age, sex, and race—were released on schedule last winter and spring. Information from Summary Tape File (STF) 1A, on population and housing characteristics at the state and local level, was complete as of June. According to Katherine Wallman of the Council of Professional Associations on Federal Statistics, products that could be in jeopardy if the cuts are maintained include:

- Data on racial, ethnic, and Hispanic origin from the detailed "long-form" questionnaire (STF 3 and STF 4).
- Long-form data such as occupation and educational attainment by race and sex, county-to-county migration, and information by congressional district and zip code.
- Data on commuting patterns needed to define Metropolitan Statistical Areas for the 1990s.
- The PUMS (Public Use Microdata Samples), inexpensive computer files of detailed characteristics from a large sample of U.S. households.
- Map production, including such innovations as the TIGER computer-generated block-level maps.
- Reports on special topics—such as migration, education and industry, income, mobile homes, racial and ethnic groups—that were earmarked for 40 subject reports and 20 summary computer files.

The prospect of delays and cancellations caused a sense of *dèjé vu* among those who went through the frustration of waiting years beyond due dates for 1980 Census products.

—S.K.

Census Adjustment Update . . .

More or less as expected, Secretary of Commerce Robert A. Mosbacher announced on July 15th his decision not to adjust the 1990 Census for the differential undercount. What came as a surprise to many, however, was that Director of the Census Bureau Barbara Bryant and seven of a nine-member Undercount Steering Commiittee recommended in favor of tackling the undercount through statistical adjustment. Commerce Under Secretary for Economic Affairs Michael Darby recommended against adjustment. The secretary's Special Advisory Panel split four to four.

Intensified Family Planning for Pakistan?

Participants at a high-level seminar on population planning, labor welfare, and communications held in Karachi this April urged the government of Pakistan to create a vigorous new national population policy to slow down population growth.

Pakistan is the ninth most populous nation in the world. The country has long had a population policy, but it has not been effectively enforced.

The three-day meeting at the Ministry of Labor's training center, which received copious media coverage in Pakistan, was organized by the National Institute of Labour Administration and Training in conjunction with the New York-based organization Population Communications International and the Friedrich Ebert Foundation of the Federal Republic of Germany.

Wasim Sajjad, chairman of Pakistan's senate, stressed the need to strike a balance between population increase and economic development. A poor country with an unbridled population growth rate, he said, is beset with far more problems than a developing country that has controlled its demographic swell. He pointed to Iran's five-year social and economic development plan for balancing population growth through family planning and its target of reducing it from the present 3.2 percent a year to 2.9 percent by 1993. He referred also to well-developed family planning programs in the fellow Islamic countries of Indonesia and Bangladesh.

A committee of experts was formed to assess current family planning efforts and make recommendations within a few months to the government of Pakistan, which is currently formulating labor and population policies.

Uncontrolled urbanization in Karachi—where the population swelled from 1 million in 1950 to nearly 8 million today—was also a matter of concern. "Despite the government's all-out efforts to improve living conditions in Karachi and expand civic services, developmental planning is often upset by an unbridled increase in the city's population," said Sajjad. "Therefore, family planning services in Karachi is all the more important, particularly for the large industrial workforce and their families. Similarly, the promotion of social awareness about the demographic and environmental problems and what individuals and communities should do to tackle them is of immense importance."

Conference participants also urged the government's attention to out-of-control environmental problems, such as deforestation and water and air pollution. In this regard, President Ghulam Ishaq Khan's recent stress on the need for protecting the environment was a morale booster for the nascent Pakistani environment movement.

The population explosion in Pakistan—16.6 million in 1901, 33.7 million in 1951, and 117.5 million today—is of serious concern to government leaders and planners. At its current total fertility rate of 6.6 lifetime births per woman and current levels of mortality, the country would double its population by the year 2014.

—*Qutubuddin Aziz*

Qutubuddin Aziz is the director of the United Press of Pakistan news service and is a board member of the New York-based Population Communications International.

Mary Lee Tatum, Sex Educator, 1937-1991

Mary Lee Tatum, a pioneer in the field of sex education, died this June in an automobile accident. Tatum began working in sex education while teaching at George Mason High School in Falls Church, Virginia, in the early 1970s. A widely-consulted expert, she lectured to groups around the country and internationally and appeared on talk shows. She championed the role of community involvement in sex education and was particularly known for her ability to bring together parents of different outlooks. The intelligence, humor, and personal warmth she brought to her work will be sorely missed. A scholarship fund in Tatum's name has been established at George Mason High School, 7124 Leesburg Pike, Falls Church, VA 22043.

An Invitation to PRB's Awards Dinner

The Board of Trustees and staff of the Population Reference Bureau cordially invite you to celebrate PRB's 62nd anniversary at the 1991 Annual Awards Dinner, honoring outstanding contributions in the field of demography.

The dinner speaker will be Dr. Wesley C. McClure, president of Virginia State University, a distinguished mathematician and educational analyst who also serves on PRB's Board of Trustees.

Date: Thursday, October 31, 1991
Time: Cocktails (cash bar), 6:30 p.m.
Dinner and Awards Ceremony, 7:15 p.m.
Place: The Washington Hilton Hotel, Washington, D.C.

Awards Dinner tickets are $45 each, checks payable to PRB. Send requests to Population Reference Bureau, Attention: Colette Thomas, 1875 Connecticut Avenue, N.W., Suite 520, Washington, DC 20009.

Rescuing the Registry of Kuwait

Just hours after Saddam Hussein began his surprise invasion of Kuwait in August 1990, one lone man braved border guards to smuggle a set of computer disks into Saudi Arabia. The 16 diskettes held information of great value to the Kuwaiti resistance: the complete population registry of Kuwait—a listing of every man, woman, and child in the country.

One year later, the Kuwaitis are still reluctant to divulge the man's name—saying only that he was an employee in the civil registry office. As Masoud Al-Fehaid, press officer of the Kuwait Mission to the United Nations, told *Population Today*, "one of the employees managed to get them out. It was one person's idea, but the others must have agreed with the plan."

Al-Fehaid added: "He was afraid when he brought them to the border he might be checked, but he managed to get them through. He had the courage to go and do what he had to do."

One set of the diskettes was sent to the United Nations, where it became a vivid symbol of the population of 2 million (about 40 percent Kuwaiti, 60 percent non-Kuwaiti) as it stood before the Iraqi invasion. The UN Security Council adopted a resolution on November 28 expressing grave concern "at the ongoing attempt by Iraq to alter the demographic composition of the population of Kuwait and to destroy the civil records maintained by the legitimate government . . . ." It mandated UN Secretary General Javier Perez de Cuellar to "take custody of a copy of the population register of Kuwait."

The occupation forces damaged the registry office computers, but the system continued to operate from Saudi Arabia during the occupation, Al-Fehaid said. Now, in the aftermath of the war, it assists the government of Kuwait to track displaced persons, deaths, and the missing.

The heroic rescue of population statistics, set against the staid backdrop of a demographer's accustomed labors, makes for an unusual tale. But the registry of Kuwait is remarkable for another reason as well: it is one of the most sophisticated population tracking systems in the world.

This high-tech system lists an individual's name, address, profession, phone number, date of birth, and children. It traces one's family line, starting with name of father, grandfather, and on back through several generations. As we went to press, partly due to irregular conditions following the war, it was not possible to obtain detailed information on the registry system: when it was installed, its technical components, and the extent to which it is used to estimate population statistics. We hope to report more details in a forthcoming issue of *PT*.

Known for producing some of the most reliable population data in the region, Kuwait has taken a census every five years since 1957, the last one occurring in 1985. The 1990 census was delayed as some officials debated whether they might not drop census taking altogether, then the disruption of war overwhelmed such discussions. A new census is now planned, however.

—*S.K.*

To Saudi Arabia
B.Chin'91

African Americans: Growing Diversity, Persistent Inequalities

The numbers of middle-class and affluent blacks are increasing, even while blacks are losing ground overall, according to PRB's newest *Population Bulletin*, "African Americans in the 1990s."

Black married-couple families in which both spouses work increased their earnings during the 1970s and 1980s. Their median income by 1989 reached 82 percent of comparable whites. Families headed by younger, college-educated blacks achieved 92 percent of income parity with whites. In 1989, 42 percent of black families earned $25,000 or more a year; 15 percent earned $50,000 or more.

About one-fourth of black families earned less than $10,000 a year, however. Many of these are mother-headed families, which are especially vulnerable to poverty. Overall, black median income ($20,200 in 1989) is only 56 percent that of whites.

Meanwhile, national demographics are shifting, changing the meaning of minority status. During the 1980s, the population size of African Americans increased faster than that of whites but more slowly than that of Hispanics and Asians. Although one in eight Americans is black, blacks make up only 49 percent of the minority population. In addition, racism appears to continue taking a toll on black progress. What the future holds for African Americans is therefore unclear.

The *Bulletin* provides an up-to-date overview of black residential patterns, family patterns, mortality and health, education, labor force participation, and political participation.

"African Americans in the 1990s," by William P. O'Hare, Kelvin M. Pollard, Taynia L. Mann, and Mary M. Kent. *Population Bulletin*, vol. 46, no. 1, July 1991. 40 pp. Population Reference Bureau, 1875 Connecticut Avenue, N.W., Washington, D.C. 20009. Cost: $8 each (prepaid), discounts for multiple orders.

Watch for upcoming *Population Bulletins* on U.S. baby boomers, world health prospects, and a mini-text on demography.

DEMOGRAPHER'S PAGE

People Over Age 100: Fewer than We Think

by Ansley Coale

> *"Congratulations on your birthday! At this time of rejoicing and remembering, we are happy to add our best wishes on your special day. May you enjoy God's richest blessings, peace, contentment, and love."*
>
> *—George and Barbara Bush*

Last year, President Bush sent this engraved message to 13,839 people on their 100th through 104th birthday. Similar cards were sent to people 80 years and older. People age 105 or older received a letter from the President.

You can add a name to the White House birthday list by request (no proof of age is required), so age inflation is probably not uncommon. We also find age exaggeration in even our best sources of data on the older population, particularly among centenarians—people age 100 or older. This article explains how we know this and suggests a method to correct it. —S.K.

An examination of old-age mortality data in the United States has confirmed what many demographers have long suspected. The death rates of the oldest U.S. age groups are significantly understated, particularly at advanced ages. Age-specific death rates of centenarians (people age 100 and older) are particularly liable to be inaccurate because the standard data sources on which rates are based have major deficiencies. Although age exaggeration may start small, perhaps half a year at age 70, the tendency to exaggerate keeps growing like Pinocchio's nose until—at ages 90, 100, and beyond—validity is clearly suspect.

The number of centenarians in the 1980 Census is listed as 32,194. Others have investigated quality problems with census data on centenarians, placing the number closer to 15,000.[1] In a recent study, undertaken for the National Center for Health Statistics,[2] Ellen E. Kisker and I examined the systematic defects incorporated in each of the major sources of data from which death rates of older people can be calculated. These sources included:

- Registered deaths in the vital statistics system;
- 1980 Census counts; and
- Medicare program participation and death records.

Oldest Ages at Death: United States and Selected Countries

	Reported Age at Death for					
	Men			Women		
Country (time period)	Oldest	Second oldest	Third oldest	Oldest	Second oldest	Third oldest
France (1948-1969)	107	106	106	109	108	108
Italy (1978)	107	105	105	109	108	108
Netherlands (1945-1970)	109	107	106	110	109	108
Sweden (1945-1967)	106	105	105	109	107	107
Switzerland (1948-1970)	105	105	105	108	106	105
Japan						
1953	105	104	104	112	108	107
1983	107	106	105	109	107	106
United States						
1980 (vital statistics)	122	117	114	122	121	120
1979-1981 (Medicare)	124	122	118	124	124	123

Sources: Official vital statistics or demographic yearbooks of the individual countries.

Data Problems

One quick way to judge the credibility of old age data in the United States is to compare it to similar data from other developed countries that have comparable mortality patterns but fairly complete population registries. It immediately becomes clear that something is amiss. The table below shows the three highest-reported individual ages at death in these countries and the United States. U.S. ages at death exceed those recorded in other countries to an implausible degree. The highest age at death recorded among the six comparison countries exceeds 109 in only one or two instances. In the United States, even the second-highest and third-highest age at death reported in a given year has exceeded 120.

The death rate for a specific age group is the number of deaths in that age group divided by the population "at risk" of dying. It is usually multiplied times a constant such as 100,000 for clarity. Calculating it for 105 year olds in 1980 results in the following:

$$\frac{\text{Number of deaths at age 105}}{\text{Population age 105}} \times 100{,}000 =$$

$$\frac{231}{1{,}616} \times 100{,}000 = 14{,}295$$

Thus, for every 100,000 persons reported to be 105 in the census, 14,295 (or 14.3 percent) died in 1980. The numerator comes from death certificate registrations in the national vital statistics system; the denominator comes from the decennial census. But, the more the denominator (census figure) is exaggerated, the smaller death rates will be.

Tallies of centenarians in the decennial census tend to be exaggerated for a variety of reasons. Many people of ad-

Ansley Coale is Professor Emeritus
of Economics and Public Affairs and Senior Research Associate
at the Office of Population Research, Princeton University

vanced ages lack birth certificates or demonstrably overstate age. And, in the 1980 Census, problems in the method of "allocating" persons of unknown age resulted in too many centenarians being added.

In the countries earlier cited for comparison, very few deaths are reported at ages above 110. It follows, then, that at any moment there are few persons living (and therefore at risk of dying) above this age. Yet the 1980 U.S. Census lists more than 1,000 white persons and nearly 900 nonwhite persons above 110 years of age, compared with 24 white and 65 nonwhite recorded deaths above 110 that year. The census seems to inflate the number of older persons as well. Among older white women (over age 65), the proportion of people above age 95 was 7.4 per 1,000 people over 65 in 1980. This figure is about twice as great as the proportion in Sweden (3.8 per 1,000) or the Netherlands (3.3 per 1,000). The reported proportion over 100 was about four times as great in the United States (1.2 per 1,000) as in Sweden (0.3 per 1,000).

Further evidence of exaggeration of census totals appears when we compare the enumerated old-age population from the census with the population implied by registered deaths and survival rates. To develop a model of the implied population over age 100 for a certain cohort, say, those born 120 years ago in 1870, we add up all registered deaths for the cohort during the years 1970, 1971, 1972, and so on, until all persons born in 1870 have died, that is, the "generation" becomes "extinct." This total provides a check on how accurately the 1970 Census enumerated the cohort of 1870, which provides indirect evidence on the extent to which later censuses might be missing the mark. We can modify this method for younger cohorts (where survivors will remain) by applying an annual rate of change for each age group plus an average number of deaths each year.

A model such as this is known to agree well with the enumerated population when age at death is accurately recorded, the survival rate at each age is correct, and when registration and enumeration are equally complete. In a country like Sweden, for example, the ratio is about one to one. For white males in the United States the ratio of census population to the "calculated" population by the method of extinct generations is also about one to one for the entire population age 65 and older. But the ratio becomes increasingly larger at older ages: from 1.2:1 for people age 95 and older, 1.4:1 for people 100 and older, 9.5:1 for people age 105 and older, and 111.9:1 for people age 110 and older.

If we substitute an indirectly calculated population in place of census figures in the denominator, we get an improved schedule of death rates at advanced ages. However, the new death rates are still unrealistically low at ages over 90. Althought the number of deaths may be accurate, the *age at which they occur* is still being exaggerated.

In forming our picture of survival and mortality at the oldest ages, we can avoid census data altogether by turning instead to Medicare records. Medicare provides a single, closed population registration system for living participants and deaths. Even so, death rates calculated from Medicare data also understate mortality at very high ages (people over 95 or 100).

One source of inaccuracy is that people who were obviously well over age 65 when the Medicare program began in 1966 were excused from providing a proof of age. Early enrollees who exaggerated their ages were "aged" with each passing year, so that a number of them were carried at implausibly high ages—over age 120—by 1980 (as seen in the table). Also, at very high ages, there are persons maintained on the rolls who are no longer legitimate entries. Some may have erroneously been enrolled twice, and others may have died or emigrated without notification of the Social Security system.

Undetected fictitious entries are apparently immortal; if there is no person corresponding to an entry in the register, there can be no death to remove the person from the roles. These anomalies, which could be corrected by dropping any persons whose existence cannot be verified from the Medicare rolls, inflate the denominator of the calculated death rate just as census data do.

An Adjusted Mortality Schedule at Ages Above 85

How to calculate a schedule of death rates for the oldest age groups? Since we have seen that census denominators for advanced ages are quite unreliable, we may turn to mathematical models or ignore the problem by terminating life tables with an age group such as "85+." But our purpose here is to address the problem of death rates at the older ages directly.

Figure 1. Adjusted and Direct Death Rates for Elderly Women in Sweden, 1978-1982

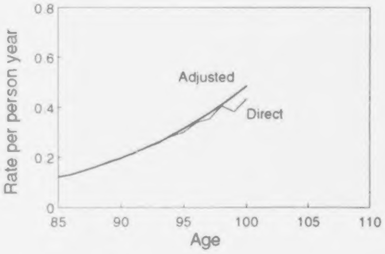
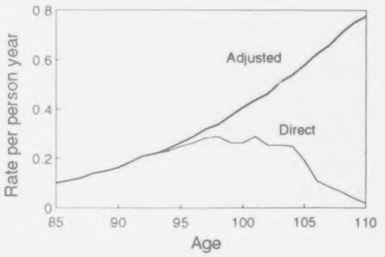


Figure 2. Adjusted and Direct Death Rates for Elderly White Women in the United States, 1980



Source: Ansley J. Coale and Ellen E. Kisker. "Defects in Data on Old-Age Mortality in the United States: New Procedures for Calculating Mortality Schedules and Life Tables at the Highest Ages," *Asian and Pacific Population Forum*, vol. 4, no. 1 (Spring 1990), pp. 2-31.

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Demographer's Page

Continued from previous page

The most popular solution to the problem has been to apply a Gompertz law of exponentially increasing mortality rates with rising age. However, death rates at extreme ages in countries with high-quality data do not support this technique. There is an alternate method: one that assumes death rates in the upper ages *increase at a declining rate.* As Figure 1 shows, the adjusted curve that results closely approximates directly calculated death rates for women in Sweden ages 85 to 100 (achieved by dividing the registered number of deaths at each age by the number of people at risk). In Figure 2, the new curve shows how far away from the truth the death rates for elderly U.S. women may be.

Practical applications of this method allow the investigation of many intriguing mortality issues. For example, it has long been noted that U.S. death rates are lower for older blacks than whites, while they are higher for blacks than whites at younger ages. Some observers have carried this "crossover" phenomenon to the conclusion that older black survivors are genetically tougher. Experimentation with this alternate method, particularly for death rates from Medicare data, suggest that black death rates are higher than white rates; no crossover actually occurs. The Medicare data themselves suggest vital statistics miss 7 to 10 percent of black deaths over age 80.

Thus, new insights can be gained into mortality at older ages, depending on one's confidence in mathematical models and the applicability of data from other developed countries in making assumptions about U.S. rates. However, I would submit that, with a high degree of probability, this method does offer notable improvements.

NOTES

1. U.S. Bureau of the Census, *Current Population Reports* P-23, no. 153, "America's Centenarians" (Washington, D.C.: GPO, 1987); and Gregory Spencer, "The Quality of Centenarian Data in the 1980 Census," paper presented at the 1986 Annual Meeting of the Population Association of America, San Francisco, Calif.
2. Ansley J. Coale and Ellen E. Kisker, "Defects in Data on Old-Age Mortality in the United States: New Procedures for Calculating Mortality Schedules and Life Tables at the Highest Ages," *Asian and Pacific Population Forum*, vol. 4, no. 1 (Spring 1990), pp. 2-31.

TAKE A NUMBER

How does your population grow? (or vice versa) Few things reveal as much about a population's past and future as its age distribution. We were recently somewhat astounded to see the effects of falling birth rates upon the age distribution of Spain.

Spain's birth rate has dropped fast and far in the past 15 years, from a total fertility rate of 2.8 lifetime children per woman in 1975 to 1.3 today. As a result, there are 3.1 million in the population between the ages of 10 and 14, but a full *million* less in the four-and-under age group. Such a radical change in the age structure will have far-reaching effects such as the lessened demand for teachers five years from now and possible labor force shortages later on.

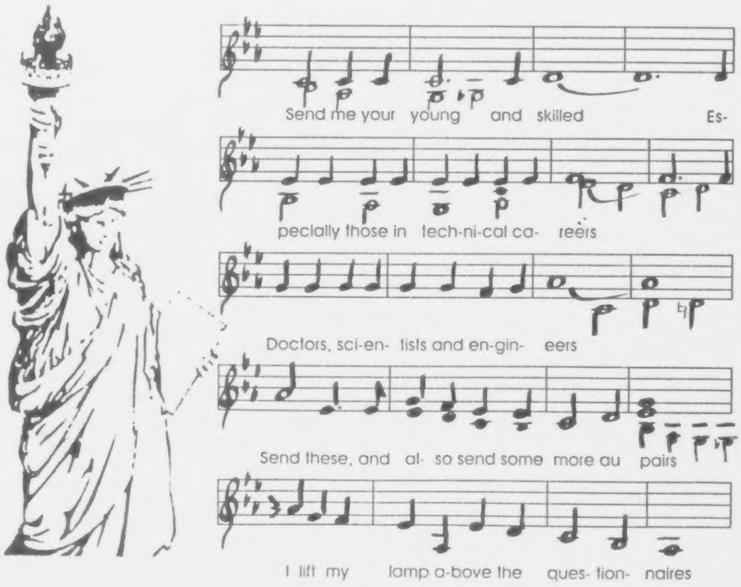
Contrast this with high-fertility Pakistan, where the number of children in the four-and-under age group is 23 million, about 10 million more than the 10 to 14 group.

This just in... The population of American Samoa is up by 45 percent from 32,297 in 1980 to 46,773 in 1990. The Republic of Palau's growth was more modest, the 1990 count of 15,122 represents a 25 percent increase since 1980. The Commonwealth of the Northern Marianas experienced a whopping 158 percent increase to 43,345 in 1990, much of that occurring in Saipan municipality. When totals are released later this year for Guam and the Virgin Islands, that will complete the U.S. census' far-ranging geographic coverage for this decade.

—C.H.

ADDENDA

"Tired/Poor" by Garrison Kiellor


Send me your young and skilled Es-
pecially those in tech-ni-cal ca- reers
Doctors, sci-en- tists and en-gin- eers
Send these, and al- so send some more au pairs
I lift my lamp a-bove the ques- tion- naires

In this song snippet, American Public Radio song and storymaster Garrison Kiellor comments on recent immigration policy trends.

EVENTS/ CONFERENCES

- **World Food Day, October 16.** World Food Day's eighth annual teleconference will be broadcast October 16, 12:00 to 3:30 p.m., eastern time. The program will reach colleges, hospitals, and government locations in the United States and be accessible in every country in the Western Hemisphere. World Food Day encourages educators and communities to undertake projects to alleviate hunger. For more information, contact the U.S. National Committee for World Food Day, 1001 22nd Street, N.W., Washington, DC 20037. Telephone: 202-653-2404; fax: 202-653-5760.

- **Population Awareness Week.** October 20-26. This event encourages projects that will raise awareness about global population issues—educator packets tell how. Contact: Lauren M. Zittle, The Population Institute, 110 Maryland Avenue, N.W., Washigton, DC 20002. Telephone: 202-544-33900.

- **Southern Demographic Association.** October 10-12, Jacksonville, Fla. Contact: Dr. John F. Long, Population Division, Bureau of the Census, Washington, DC 20233. Telephone: 301-763-7030; fax: 301-763-3862.

- **International Statistical Programs Center, U.S. Census Bureau, 1991 Fall Workshops.** Planning an Income and Expenditure Survey (October 28-November 8, $1,950); Management of Statistical Activities (November 12-27, $2,350); Microcomputer Applications for Statisticians (December 2-20, $2,800). Deadline: September 15, workshops fill quickly. Contact Leo Dougherty, Chief, Census and Survey Methods Branch, International Statistical Programs Center, Bureau of the Census, Washington, DC 20233; fax: 301-763-7589.

- **International Association for Impact Assessment**, 12th annual meeting, August 19-22, 1992, World Bank headquarters in Washington, DC. Theme: Industrial and Third World environmental assessment, the urgent transition to sustainability. Papers due by February 1, 1992. Telephone: 919-964-2338; fax: 919-964-2340.

SOFTWARE

World Resources, 1990-91, the World Resources Institute's well-known compendium of data on world population, environment, and resources is now available on diskette. In this form, users can quickly call up and use a large number of variables for 146 countries—no need to enter data manually.

The program will output data in ASCII for use in word processing or in spreadsheet format for Lotus and Lotus-compatible programs; provision is also made for output to Javelin or Javelin Plus. A "quick view" feature allows fast on-screen display.

The program package contains both two low density 5 1/4 inch diskettes and one low density 3 1/2 inch disk and a 17-page manual. On a hard disk, it occupies 694K bytes. The main program uses only about 360K and it will run directly from the floppy drive. Supplementary data on topics such as endangered species, soil quality, production, and consumption, take up the rest.

Users select countries, regions, data tables, and data columns using the STARS retrieval system developed by the World Bank. Although a bit unconventional, one becomes quite adept after only a few minutes of working with the menus.

All in all, this package provides a great deal of data in several convenient formats, all accessible with only a modest amount of effort.

Order from: WRI Publications, P.O. Box 4852, Hampden Station, Baltimore, MD 21211. Phone (301) 338-6963. $89.95. Includes a complimentary copy of the printed edition of *World Resources, 1990-91*.

—C.H.

POPULATION UPDATE

Estimated United States Population:

As of May 1, 1991	252,164,000
As of May 1, 1990	249,458,000

The above estimates, based on the 1990 Census, include armed forces overseas and are from U.S. Bureau of the Census *Current Population Reports*, P-25, no. 1075.

Estimated World Population:

As of September 1991	5,400,000,000
Annual growth	93,000,000

Extrapolated from the mid-1991 population on PRB's *1991 World Population Data Sheet*.

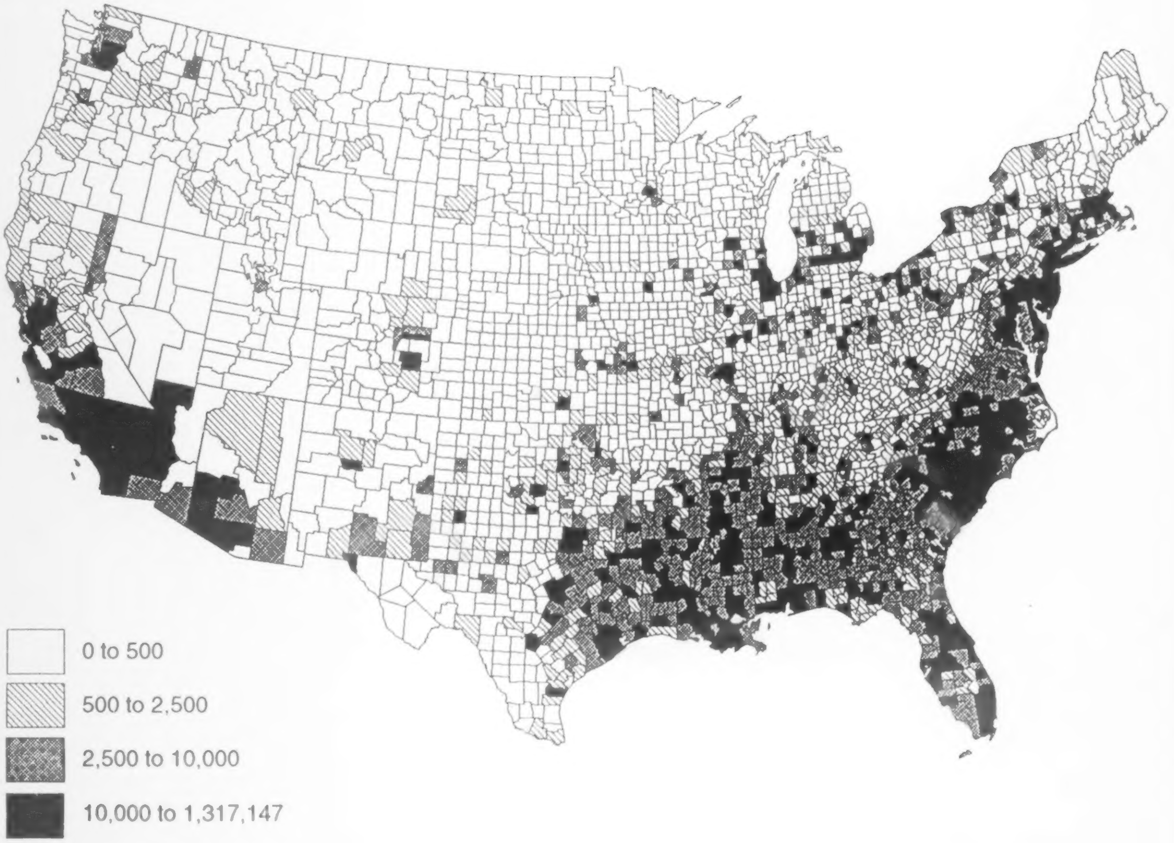
Latest Provisional Statistics for the U.S.: April 1991

	12 months ending with April					
	Number		Rate			
	1991	1990	1991	1990	1989	1988
Live births	4,164,000	4,086,000	16.5	16.4	16.0	15.7
Deaths	2,143,000	2,169,000	8.5	8.7	8.7	8.9
Natural increase	2,021,000	1,917,000	8.0	7.7	7.2	6.8
Marriages	2.444,000	2,418,000	9.7	9.7	9.6	9.8
Divorces	1,171,000	1,171,000	4.6	4.7	4.8	4.7
Infant deaths	37,900	38,900	9.1	9.6	9.8	10.0

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births.
Source. Monthly Vital Statistics Report (vol. 40, no. 4) from the National Center for Health Statistics.

PopPatterns

Where Most U.S. Blacks Live



The 1990 Census counted 29,986,060 African Americans—12 percent of the total U.S. population. Most African Americans live in the deep South, the "BosWash" (Boston to Washington) megalopolis of the northeastern corridor and highly populated metropolitan counties, as this county-level "PopPatterns" map shows.

Southern counties, both urban and rural, have large black populations—nearly all counties in the Old South are home to at least 5,000 African-American residents. Over half (53 percent) of U.S. blacks, but only one-third (34 percent) of the total population live in the South. Although large numbers of African Americans (primarily young black males) left the South during and after World War I, out-migration slowed considerably following the civil rights movement of the 1960s.

The highly populated northeast corridor has a large black population. There and elsewhere, African Americans are increasingly moving to the suburbs. Over a quarter (27 percent) of all blacks live in suburban counties. This represents a 50 percent increase since 1980.

More than half of U.S. counties (52 percent) are home to less than 500 blacks. The Midwest and the Pacific Northwest, in particular, are predominantly white. Midwestern African Americans are concentrated in old industrial centers such as Chicago, Milwaukee, St. Louis, and Detroit. In the West, large concentrations of blacks can be found in the metropolitan counties surrounding Los Angeles, San Francisco-Oakland, San Diego, Denver, and Seattle.

Only one U.S. county has more than a million African Americans: Cook County, Illinois, with 1.3 million black residents.

—*N.W.*

This PRB "PopPatterns" map is presented in black and white for easy reproduction for teaching purposes.

For an overview of African-American population trends, see "African Americans in the 1990s" (PRB's *Population Bulletin*, vol. 46, no.1, July 1991, is available from the Population Reference Bureau, 1875 Connecticut Avenue, N.W., Washington, D.C. 20009. Cost: $8 each. See page 5.)

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, POPULATION TODAY, Population Reference Bureau, 1875 Connecticut Ave., N.W., Suite 520, Washington, D.C. 20009-5728.

DEMOGRAPHIC CHANGE AND THE AMERICAN FUTURE by R. Scott Fosler, William Alonso, Jack A. Meyer, and Rosemary Kern. Published for the Committee for Economic Development by the University of Pittsburgh Press, 1990. 304 pages. Hardback: $29.95; paperback $14.95. ISBN 0-8229-3638-0 (hardback); 0-8229-5431-1 (paperback).

The 1990s offer "a limited period of fading opportunity" to address a number of challenges raised by the interplay of domestic and international demographic trends. This is the central message aimed at policymaking audiences. The dual focus—domestic and international—is necessary, say the authors, because "partly by coincidence and partly because they are closely related, forces in both spheres are traveling on a similar time path."

Produced by the prestigious Committee for Economic Development, the book explores the public policy implications of U.S. and international population trends as the 21st century approaches. As the introduction notes, demographic forces can create social and economic problems and also shape the social and institutional context in which we must address them. In addition, the insights provided by demography can point the way to workable solutions. Each of the book's three major sections target points of stress and opportunity raised by demographic trends and identify "cost-capacity gaps"—that is, gaps between social costs and society's capacity to cover them—inherent in those trends.

The first section, by William Alonso, examines trends and prospects for the growth and distribution of the American population. Alonzo cites the growth of outer metropolitan fringes as an example of how demographic forces create cost-capacity gaps between populations and jurisdictional boundaries.

In the second section, Jack Meyer and Rosemary Kern discuss aging, immigration, and changing family structure in the United States. When the large baby-boom generation reaches retirement age, the authors say, we will no longer be able to cover the social cost of aging on a pay-as-you-go basis. They advise we start investing now in building health-care capacity and the productive potential of the growing minority and immigrant sector of the work force. They anticipate a growing cost-capacity gap in international aid, as less developed countries seek to apply developed economic and military technology to raise living standards.

In the last section, lead author Scott Fosler argues that demographic forces may also weaken the political institutions that must deal with them. He sees a growing mismatch between the increasing dispersal of political power in the United States and the growing interdependence among those who hold power. Over the long run, increased political influence will accrue to the growing share of elderly and minority groups. But in the crucial decades just ahead, the large baby-boom generation holds the pivotal position in defining the new politics of aging, the development of human resource potential of the future labor force, and shaping the U.S. response to increasing global interdependence.

—Tom Merrick

[This review appeared in *Population and Development Review*, March 1991.]

SAFE SEX: A Guide to Condoms, by James W. Brackett, 2nd ed. Durant, Okla.: Essential Medico Information Systems, Inc. 1991. 99 pages. $5.95. ISBN: 0-929240-25-1.

A quick reference on condoms for counselors (or individuals) by a former official of the Office of Population of the Agency for International Development. Topics include condom use in pregnancy and disease prevention, availability and cost, how condoms are one of a broad array of birth control methods, the history of condoms, and how to discuss the subject of condoms with a sexual partner. (For more information, call 1-800-225-0694.)

—Susan Kalish

POPULATION AND NUTRITION: An Essay on European Demographic History by Massimo Livi-Bacci. New York: Cambridge University Press, 1991. 150 pages. Hardback: $39.50; paperback: $12.95. ISBN: 0-521-36325-X (hardback); 0-521-63871-5 (paperback).

Written in the essayist tradition that combines critique of old ideas with new interpretations, cogent argumentation, and attentiveness to the reader—this book makes instructive and pleasant reading. It explores the dynamics of population growth in Europe from the 14th century to the beginning of the industrial era, a period "beset by catastrophes, slow progress, and periods of unstable stagnation."

Livi-Bacci starts from a critique of Malthus' notion that the insufficient supply of food resources is the main constraint on population growth and the main cause of the high rates of mortality in pre-industrial societies. It is difficult, he argues, to sort out causes of mortality among a host of contributing factors, such as poverty, ignorance, unfavorable environmental and hygienic conditions, and upsets in the social order as well as famine. The author marshals evidence to demonstrate that "great epidemic cycles are largely independent of the state of nutrition of populations."

—Susan Kalish

SPOTLIGHT

India

(Part 1 of 2)

Population (1991): 859,200,000
Total area: 1,269,340 sq. mi.
Population density: 677 persons/sq. mi.
Births per 1,000 population: 31
Deaths per 1,000 population: 10
Rate of natural increase: 2.0 percent
Total fertility rate: 3.9 children per woman
Infant mortality rate: 91 per 1,000 live births
Life expectancy at birth: 57 years
GNP per capita: $350
Capital: New Delhi

by Jianbin Zheng

With 859 million people, India has the world's second-largest population. Only China has more people. As a developing country, India has a young and rapidly growing population, with high fertility and high infant mortality rates. This Spotlight provides a social, cultural, economic, and demographic overview of the country. The October issue will analyze population trends and their policy implications for India.

Although containing more than three times the population of the United States, India is only about one-third as large. It is bordered on the west by Pakistan, on the north by China, Nepal, and Bhutan, and on the east by Bangladesh and Myanmar. With 2,703 miles of coastline, the country stretches deep into the Indian Ocean.

India, which became independent from the British colonial rule as a dominion in 1947, is a low-income, predominantly agrarian-rural society. Agriculture accounts for about 33 percent of the GNP and employs 67 percent of the country's labor force. With the help of modern farming technology and improved seeds, India has become self-sufficient in food grains and a net agricultural exporter. Manufacturing and services employ about one-third of the labor force. India has the world's fourth-largest coal reserves.

With over 1,600 languages and dialects spoken, India recognizes 16 official languages. Indo-Aryan languages (including Hindi) are spoken by about three-fourths of the population, mostly in northern and central India. Dravidian languages, primarily spoken in the southern Indian states, account for the remaining fourth. About 80 percent of the population are Hindus and 11 percent are Muslims. Religious minorities include Christians, Sikhs, Buddhists, and Jains. The state's volatile ethnic, linguistic, and religious mix fuels intergroup tension and has frequently touched off intercommunal violence.

Fertility behavior in India is strongly influenced by the prevailing social and economic conditions, as well as deeply held cultural and religious beliefs.

The prevailing norm of early and universal marriage leads to about 4.5 million marriages each year. An estimated 3 million brides are between 15 and 19 years old, although not all marriages lead to immediate cohabitation. The mean age of marriage has slowly increased from 16.9 years in the early 1960s to 18.8 years by the mid-1980s. Divorce and separations are rare: the 1981 census counted less than 1 percent of all women age 15 to 49 as "divorced and separated." Religious and social disapproval of widow remarriage helped to lower fertility rates, especially among Hindu women. Some researchers estimate that fertility rates in India would increase by 13 percent for Hindus and 7 percent for Muslims if the ban on widow remarriage were completely eliminated. Modernization has brought a trend toward remarriages in both urban and rural areas.

The traditional preference for sons rather than daughters, particularly in rural India, also plays an important role in a couple's decisions about childbearing. A 1970 all-India family planning survey asked 27,000 married women of reproductive age (15-44) and their husbands if they felt they must have a son. An overwhelming majority answered yes—86 percent of women and 91 percent of men.

India consistently shows an unusually high sex ratio for men, even for a less developed country. The 1991 census found a sex ratio of 109 men per 100 women in India. Contributing factors to the skewed sex ratio are thought to include underreporting of female infants and children, son preference, and societal neglect and discrimination against girls, particularly in the remote Indian states.

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POPULATION TODAY

Vol. 19, No.10 October 1991

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World Bank

School children all over the Western Hemisphere, like these in Mexico City, will soon commemorate Columbus' quincentennial. (See story page 4.)

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FROM THE EDITOR'S DESK

Yikes! We've had some changes in geography and country names before, but nothing like this. In the past, Dahomey became Benin, while the Yemens, Viet Nams, and Germanies reunited. Burma became Myanmar, Southern Rhodesia became Zimbabwe, and Ceylon chose Sri Lanka. But rarely have the world's cartographers and geographers been faced with the complications occasioned by the recent changes in the Soviet Union.

This business is of particular interest to PRB staff since recent developments must be reflected in the format of the *World Population Data Sheet.* The geographic treatment of the Soviet Union has always been a bit dicey at best. Development literature and statistics have treated the USSR as if it were a region, not a country. But, about one-fourth of the USSR's population lives in Asia (the traditional dividing line between Asia and Europe being the Ural and Caucasus Mountain ranges), the rest in Europe.

So what to do? As former constituent Republics become truly independent and listed as sovereign states on the *Data Sheet,* they must be put *somewhere.* The three Baltic states belong in Europe, but which part of Europe? Eastern? Northern? Moldavia and Georgia would clearly belong in Eastern Europe and Western Asia, respectively, but how about the rest of the former USSR?

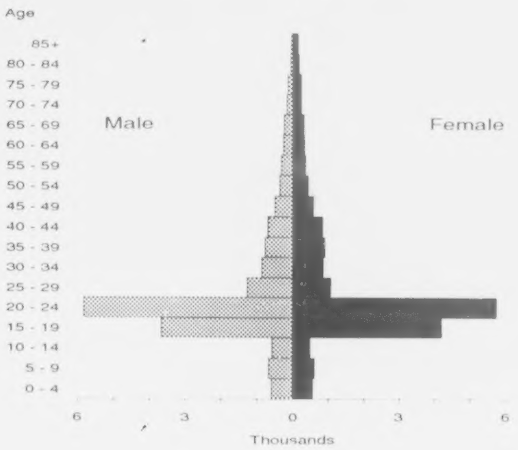
The simplest solution might be to continue showing the expected loose confederation of the remaining republics as we once did the USSR itself, i.e., as a region—but list the republics separately. This new group may yet emerge with a new name, such as the "Union of Sovereign States." That solution avoids the thorny problem of assigning parts of the country to Asia and Europe.

That said, on to Yugoslavia....

—*Carl Haub*

SPEAKING GRAPHICALLY

Portrait of a College Town



This 1990 population pyramid for Amherst, Massachusetts, captures the age structure of many college towns in the United States.

Source: Center for Massachusetts Data. (Inspired by the 1980 version of this pyramid, which appeared in *Demography: The Study of Human Population,* by David Yaukey.)

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Recycled Paper

South Korea's Low Fertility Raises European-Style Issues

Low fertility may lead Korea to drop its one-child-family incentives.

Women in South Korea now average fewer children during their lifetimes than do women in Europe.

As of 1987, the total fertility rate (TFR, or average lifetime births per woman) for South Korean women was 1.6 children—actually less than such low-fertility notables as Sweden, Norway, and France.

While declining fertility means less pressure on social resources, rapid drops raise new issues, as many European nations now attest. South Korea offers an intriguing first look at a developing country facing the challenges of below replacement fertility. It is an example of a less developed country with developed-country-style population issues.

At the current fertility level, South Korea's population will increase to about 50 million by 2020 and then begin a slow decline.[1] Slowing population growth will be welcome in a country which has gone from 85 percent self-sufficient in food in 1970 to only 42 percent today. In addition, by 2000, 90 percent of the country's energy needs will have to be imported. But an aging society must devote a rising proportion of income to medical care and some analysts fear a drop in competitiveness in the world labor market.

European countries in similar situations are resisting solutions that would alter their ethnic composition such as importing workers from the "South," and are discussing ways to raise their birth rates while continuing to recognize the changing role of women.

In addition to its well-known burgeoning economic success, South Korea has undergone a less-known demographic revolution in the past two decades—one that has completely transformed the country's demographic future. In 1960, South Korea's total fertility rate was about 6.0. By 1970, the TFR had dropped to 3.9, and, by 1987, to an astounding 1.6. With that, South Korea set a record for low fertility in a developing country. The extremely low birth rates of the Asian city states of Singapore and Hong Kong were achieved in an essentially urban context. In contrast, about one in five South Korean workers is still engaged in agriculture.

Family planning has been a strong component of South Korea's five-year plans since 1962. These programs featured strong government support and a large group of family planning workers, even in rural areas, with free contraceptives provided by private physicians. The sense of national urgency behind the program is understandable when we consider that South Korea must fit a rather large population, 43 million in 1991, into an area about the size of the state of Indiana.

The national population policy placed considerable emphasis on achieving high initial rates of contraceptive use. Unfortunately, high discontinuation rates resulted, which led to a large increase in the number of abortions. The number of abortions is equal to the number of live births in South Korea.

At this point, the government feels that the population problem has been solved and, in 1986, it reduced its annual sterilization target from 300,000 acceptors to 60,000 by 1991. In the future, except for poor families, emphasis will be placed on the delivery of services through private organizations and national medical insurance.

In addition, the following steps are being considered for a new national policy. One-child-family incentives, such as free maternity and health care for children under age six when couples agree to sterilization, may be dropped in favor of a two-child norm. An expansion of family planning programs to the unmarried as well as married is a possibility, along with laws designed to eliminate the continued preference for male babies. Finally, reorganization of delivery systems to encourage continuation of contraceptive use and reduce unwanted pregnancies is being discussed.

—*Carl Haub*

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[1] Nam-Hoon Cho, et al., "Recent Changes in the Population Control Policy and Its Future Directions in Korea," *Journal of Population, Health, and Social Welfare*, Vol. 10, No. 2, December 1990.

Census Update...

On September 10, Supreme Court Justice Sandra Day O'Connor backed the Secretary of Commerce's refusal to make public the Census Bureau's adjusted counts, unless forced to do so by a federal court order. California and Texas had gone to court, hoping to use those unofficial figures in their redistricting process. It is likely that O'Connor's decision will settle the adjustment controversy for the 1990 Census, since the court decision will probably not occur before most redistricting has been done.

But the politically charged issue of a differential undercount of minorities and city dwellers already haunts planning for the year 2000 Census. This spring, the Census Bureau hopes to test several methods to increase overall response rates and prevent a similar undercount.

Immigration to the Americas: 500 Years

The year 1992 will mark the quincentennial of Columbus' first landing in the Americas. As preparations to commemorate this event begin, we'd like to take the time here to reflect on how Columbus' voyage opened up the entire Western Hemisphere to massive waves of immigration that still continue. Although Columbus was not the first European to see the New World and the exact site of his landing is debated, his voyages led to exploration and permanent settlement without precedent in historic times.

Estimates of the population of the Americas on the eve of Columbus' arrival, range from 14-100 million people living in the Americas.[1] Cultures ranged from hunting and gathering tribes to the urban civilizations supported by irrigated agriculture of the Aztecs and Incas. Within a century, conquest and European diseases (especially smallpox, to which the natives had little resistance), reduced their populations to a mere fraction of that size. By 1600, about 250,000 Spaniards ruled over 9 million native peoples, according to the *Atlas of World Population History* by Colin McEvedy and Richard Jones.[2] Other authors suggest different numbers: 20-25 million for Mexico alone in 1519, a number which dropped to 1 million by century's end. No matter what the numbers were, one thing is clear: the European's first "gifts" to the population of the New World were oppression, famine, disease, and population reduction.

The slave trade further complicated this picture. Between 1510 and 1870, about 4 million Africans (from more than 30 million captured) were brought in chains as "involuntary immigrants" to the Caribbean and approximately 3-5 million to Brazil, compared with just one-half million to North America. (The importation of slaves was not outlawed until 1808 in the United States, and even then some illegal trade continued.) Today there are more than twice as many Brazilians of African descent than there are African Americans in the United States.

Mexico City barrio: all of our lives have been touched by Columbus

The only Europeans in this hemisphere in the 16th century were Spanish and Portuguese. Immigrants from other European countries arrived in North America in the 17th century. The Iberians had settled in the southern areas of today's United States, migrating from Mexico into the Southwest and Florida. The French and, subsequently, the English settled in Canada on the Eastern seaboard.

Immigration from Northern European countries arrived in both North and South America. The Mennonites, a German sect, founded not only Germantown, Pennsylvania, but German immigrants also founded the city of Blumeneau in southern Brazil. The Dutch established not only "New Amsterdam" (New York City), but also Suriname (Dutch Guyana) on the northeast coast of South America and the Dutch Antilles in the Caribbean. The British took possession of St. Kitts, Barbados, and Jamaica; the French, Guadeloupe, Martinique, and Haiti.

Asian countries that were in the sphere of influence of the British and the Dutch—India, Indonesia, and to a lesser extent China—also sent streams of immigrants. Today, as a result, the ethnic mix of Suriname is 37 percent Asian Indian, 15 percent Javanese, 41 percent black or creole, 3 percent Amerindian, 2 percent Chinese, and 1 percent European extraction.

Many Americans today trace their ancestry to the "Great Migration" of 1845-1914 which brought 33 million to the United States. Through similar flows, 9 million immigrants came to Latin America and 2 million to Canada.

Waves from the British Isles, Germany and Scandinavia, the Slavic countries of Central and Eastern Europe, and the Mediterranean (chiefly Italy) shaped the racial and ethnic composition of many countries in the hemisphere. The Irish who fled the potato famine in the mid-1880s landed not only in the United States, but also in Canada and in South America. Today there are Spanish-speaking families of Irish descent surnamed "O'Higgins" in Chile, and blond, German-speaking communities in Paraguay and Brazil.

Since the mid-1800s, about 12 million immigrants came to Latin America: about 4 million of Spanish descent, 4 million Italians, and 2 million Portuguese, with smaller groups of Germans and Poles.[3] Argentina, Brazil, and Venezuela were the main receiving countries. Significant Japanese minorities established themselves in Brazil and Paraguay.

Changing immigration regulations in recent decades have increased the diversity of Canada, particularly its urban population (as well as the more familiar case of the United States). In 1956, immigrants from the United Kingdom, Germany, and Italy made up more than half of Canada's total.[4] By contrast, in 1986, the countries of India, Viet Nam, Hong Kong, and Poland each sent more immigrants than did the United Kingdom. Between 1981-1986, Asia accounted for 42 percent, Latin America for 9 percent, and Africa for 5 percent of Canada's immigrants.[5] Changing immigration laws also modified accustomed flows to the United States, so that in the 1980s, Asia and Latin America together accounted for 84 percent of immigrants.

—S.K.

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1. See John D. Durand, *Historical Estimates of World Population*, Population Studies Center, University of Pennsylvania, 1974; and Nicholás Sánchez-Albornoz, *The Population of Latin America, A History*. Berkeley: University of California Press, 1974.
2. Colin McEvedy and Richard Jones. *Atlas of World Population History*. Harmondsworth, England: Penguin Books, 1978.
3. Norman Plotkin, "Economic Impact of European Migration to Latin America After World War II" in Sidney Klein, ed. *The Economics of Mass Migration in the Twentieth Century*. New York: Paragon House Publishers, 1987.
4. Minister of National Health and Welfare, *Charting Canada's Future. Ottawa, Ontario: Demographic Review Secretariat, 1989*
5. T. John Samuel. "Third World Immigration and Multiculturalism" in Shiva S. Halli, Frank Trovato, and Leo Driedger [eds.], *Ethnic Demography: Canadian Immigrant, Racial and Cultural Variations*. Ottawa: Carleton University Press, 1990.

An Invitation to PRB's Awards Dinner

You are invited to celebrate PRB's 1991 Annual Awards Dinner, honoring outstanding contributions in the field of demography. The speaker will be Dr. Wesley C. McClure, president of Virginia State University, a distinguished mathematician and educational analyst who also serves on PRB's Board of Trustees.

Date: Thursday, October 31, 1991
Time: Cocktails (cash bar), 6:30 p.m.
Dinner and Awards Ceremony, 7:15 p.m.
Place: The Washington Hilton Hotel, Washington, D.C.

Awards Dinner tickets are $45 each, checks payable to PRB. Send requests to Population Reference Bureau, Attention: Colette Thomas, 1875 Connecticut Avenue, N.W., Suite 520, Washington, DC 20009.

Survey Report: Pakistan

Despite a national family planning program that began in 1965, Pakistan's population continues to grow at more than 3 percent annually.

Although the government has for years been trying to integrate the variable of population growth within the national development plan, population policy has been largely unsuccessful. Cultural and religious objections to family planning are considered the main obstacles to fertility reduction in Pakistan.

The recent Pakistan Demographic and Health Survey (PDHS), taken in 1990-91 and funded by the U.S. Agency for International Development (USAID) and the Government of Pakistan, interviewed 6,494 ever-married Pakistani women age 15-49. The PDHS was designed to provide accurate information on fertility, family planning, marriage patterns, breastfeeding, and child health to planners and policymakers in the country.

According to the survey, the average total fertility rate (TFR) for the six-year period prior to the survey edged down to 5.5 lifetime births per woman. If true, this represents a real watershed in Pakistani fertility, since previous surveys have reported that fertility remained stubbornly above six children per woman. The report suggests that the reported fertility decline was in response to both an increasing age at first marriage and a slightly higher level of contraceptive use.

The contraceptive prevalence rate (CPR) in Pakistan remains quite low compared with other developing countries in Asia. Only one in every five Pakistani women reports ever having used a contraceptive method. No single method has ever been used by more than 7 percent of married women.

The most common modern contraceptive methods currently in use are condoms (7 percent), pill (5 percent), female sterilization (3 percent), and the IUD and injections (3 percent). Male sterilization is almost non-existent, and knowledge of barrier methods (diaphragm, foam or jelly) is quite limited.

The country's contraceptive prevalence rate, among currently married women was 12 percent (9 percent using modern methods and 3 percent traditional methods). Among married women commonly using contraception, two methods stand out: female sterilization (3.5 percent) and condoms (2.7 percent).

The level of contraceptive use is much higher in major cities (31 percent) than in rural areas (6 percent). Married women with higher education are far more likely to use contraceptive methods (47 percent) than those with no formal education (8 percent).

About 37 percent of the currently married women interviewed reported that they did not want to have another child at any time in the future. An additional 18 percent said they want to delay childbearing for two years. Thus, it would seem that well over half of currently married women want to either space their next birth or stop childbearing altogether. This finding implies that these women comprise a considerable level of unmet need for family planning services.

Age at first marriage has been increasing steadily over the past decades. The proportion of women age 15-19 who had ever been married decreased from 38 percent in the 1975 Pakistan Fertility Survey to 26 percent in the 1984-85 Pakistan Contraceptive Prevalence Survey to 19 percent in the latest PDHS. Similarly, at age 20-24, the proportion of ever-married women decreased from 78 in 1975, to 71 in 1984-85, to 60 in 1990-91.

Overall, the survey results indicate that future strategies for fertility reduction in Pakistan might include efforts to raise the status of women, improve the access to education, change traditional attitudes toward large families and son preference, provide sufficient family planning services, as well as obtain strong commitments from government and community leaders for these policies.

—Jianbin Zheng

DEMOGRAPHER'S PAGE

Are Two Americas Emerging?

by William H. Frey

For much of the nation's history, national demographic trends were largely a result of trends in the white population. This is no longer the case. The 1990 Census confirmed that the U.S. is now one-fourth "minority" and that the non-Hispanic white population no longer unerringly reflects the nation's character. But there are two sides to this story: while changes in national-level trends increasingly reflect the statistical weight of minorities, there is a continuing geographic polarization between racial and ethnic minorities and the white "majority" population.

The initial results of the 1990 Census put the fast-changing U.S. minority group--comprised primarily of blacks, Hispanics, Asians, and Native Americans--further into the spotlight. Asians nearly doubled from 3.5 million to over 7 million and Hispanics grew from 14.6 to 22.4 million. The black increase was more modest, from 26.5 to 30.0 million. These changes accentuated geographic disparities between the minority population and non-Hispanic whites.

This article uses data from the 1980 and 1990 U.S. Censuses, analyzed at the University of Michigan Population Studies Center, to examine a decade of change in the distribution of minorities and non-Hispanic whites. (In the interest of brevity, "whites" as used in this article refers to non-Hispanic whites.)

These data show that the distribution of U.S. whites across geographic regions and metro areas is becoming increasingly dissimilar to that of faster-growing minorities. Specific minorities have always had a high degree of concentration: Cubans in Florida, Asians in California, Puerto Ricans in the New York area, blacks in the rural South and Northern cities, for example. But the recent increase in the size of these populations, coupled with decidedly different white distribution patterns, has served to accentuate these trends.

Regional and Metro Disparities

Whites are in the majority in each region of the country, but the size of the majority and its influence on statistics differs from region to region. Whites make up 83 percent of the North (Northeast plus Midwest regions). But that majority shrinks to 72 percent in the South and 67 percent in the West. To draw another sharp contrast, Hispanics make up just under one in ten persons across the nation, but about one in five in the West.

Minority gains are most heavily concentrated in the rapidly growing West region and in large metropolitan areas (those with 1990 populations that exceed 1 million). In fact, minority populations in large metropolitan areas in the West grew by 59 percent—almost twice the national minority rate. Each of the nation's three large minority groups are contributing to this pattern. More than half of U.S. Asians (55 percent) are found in the West, 45 percent of Hispanics, but only 19 percent of whites live in the West. Blacks are more concentrated in the South (54 percent live in the South) and North (37 percent). As Table 1 shows, minority growth was more than seven times that of whites and helped drive up the national growth rate to 9.8 percent. Immigration contributed to the growth of the minority population in all parts of the country. Latin America and Asia each contributed about 42 percent of new (legal) immigrants to the U.S. during the 1980s. Almost half of recent immigrants said that they intended to settle in California, Texas or Florida.

The white population, on the other hand, is distributed much differently across regions and metropolitan areas, and growth rates for whites are much slower. Whites are more heavily concentrated in the North, in smaller metros and in nonmetropolitan areas, and in suburban rings. The 1980s saw a modest shift of whites from the North toward the Sunbelt. That resulted largely from employment dislocations associated with various boom and bust areas. Sharply directed flows of elderly whites to selected retirement communities also occurred. Growth gains for U.S. whites were thus more modest and more evenly distributed across the South and West than minority gains.

In many ways, these 1980-1990 trends are not new, but are an outgrowth of patterns already apparent at the start of the decade. In 1980, the white population was disproportionately located in the slow-growth North, in small cities, and in nonmetropolitan areas.

Individual Metropolitan Areas

Metropolitan areas, where minorities tend to be concentrated, often show sharper change patterns than regions. Almost three-fourths of Asians (73 percent), 69 percent of Hispanics, and 58 percent of blacks live in large metros, while less than one-half of whites do (46 percent). This section looks at distribution and change patterns in 280 metropolitan areas in the United States and in the 39 metro areas with 1 million or more inhabitants.

Slow, dispersed change for whites. The white population increased in 191 metro areas, and declined in 89 areas. Five metros increased their white popu-

Table 1. Population Change by Region and Metropolitan Status, 1980-1990

	Percentage Change		
Region	White	Minority	Total
North*	-1.0	+22.2	+2.3
South	+9.5	+24.5	+13.4
West	+11.0	+53.4	+22.3
All U.S.	+4.4	+30.9	+9.8
Metro status			
Large metro	+3.8	+37.0	+12.1
Other metro	+7.1	+27.5	+10.8
Nonmetro	+2.4	+12.9	+3.9
All U.S.	+4.4	+30.9	+9.8

*Includes both the Northeast and Midwest Census Bureau regions. "Whites"= non-Hispanic whites.

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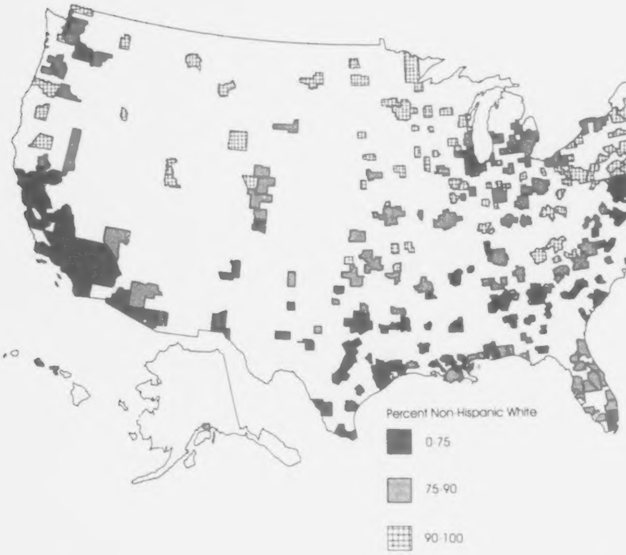
Metro Areas with Fewest Whites, 1990



lation by more than 300,000 (Dallas-Fort Worth, Atlanta, Phoenix, Tampa-St. Petersburg, and Seattle). The increase exceeded 200,000 in 12 areas and 100,000 in 26 areas. Among the gainers are retirement and recreation centers (including six cities in Florida, Phoenix, and Las Vegas), large regional centers (Seattle, Minneapolis, and Denver), as well as Washington, D.C., Baltimore, Charlotte, Norfolk, Raleigh-Durham, and Austin. Some of these are also high-tech magnets. Significantly, several white gainers had heavily white populations to begin with (Minneapolis, Salt Lake City, and Portland, Oreg.). And, only three of the 26 large white gainers are California metros (San Diego, Los Angeles, Sacramento—all with white increases of 200,000 or more).

In terms of rates of white growth, cities in Florida (Naples, Fort Pierce, Ocala, Fort Meyers) led, along with Las Vegas—all increasing by more than half. Five more metros (four from Florida plus Austin, Texas) increased their white population by more than 40 percent.

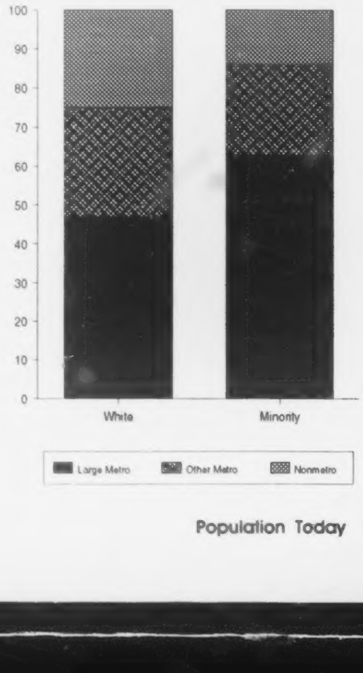
Of the metros that experienced declines in their white populations, 31 lost more than 10,000. Five large Frostbelt metros lost more than 100,000. Of these five metros, New York had the biggest decline (-856,000), followed by Chicago (-190,000), Pittsburgh (-182,000), Detroit (-173,000), and Cleveland (-107,000). Six other large metros (Miami, Buffalo, New Orleans, Milwaukee, Boston, and Rochester) also lost white population. Most of the smaller areas where the white population declined were located in the Rustbelt and "Oilpatch" regions, midwest farming areas, and western mining areas. Still, 32 of the 89 metros that lost whites, gained in population overall as a result of minority growth. These included the larger metros, New York, Chicago, Miami, Milwaukee, Boston and Rochester.

Concentrated minority gains. While all but eight of the 280 metro areas studied showed some increase in their minority populations, the bulk of the gains were concentrated in nine large metropolitan areas. Characteristically, these were metros that either had large minority populations, served as ports of entry, or were traditional destination areas for blacks. The Los Angeles metro area, which is home to 12 percent of the nation's total minority population, garnered 20 percent of the nation's minority population growth in the 1980s—a gain of 2.8 million minority residents. Los Angeles, plus New York, San Francisco, Miami, Houston, and Dallas-Fort Worth, all with large initial minority populations, account for 46 percent of national minority growth. Three additional metro areas (Washington, D.C., San Diego, and Chicago) each increased their minority populations by more than 300,000 over the 1980s.

Even more dramatic *rates* of minority growth occurred, but rates can be misleading, since high rates can result from relatively small changes in numbers on a small base. For example, Wausau, Wisconsin experienced a 247 percent growth rate in its minority population during the 1980s; however, this represented a gain of only 2,472 people. In contrast, Chicago's minority growth of 14 percent during the decade represented an addition of 318,986 people.

Growth rate comparisons obscure the concentrated nature of minority growth. Minority growth rates exceed those for non-Hispanic whites in 258 of the 280 metro areas. Yet, in only 136 metros do minorities account for most

1990 Distribution Across Metros



Demographer's Page

Continued from previous page

Table 2. Large Metros with Highest Percentages of Minorities

Rank	Metro Area	1990 Percent Minority	Change Since 1980
1.	San Antonio MSA	55.7	+2.8
2.	Miami CMSA	52.2	+13.2
3.	Los Angeles CMSA	50.2	+11.1
4.	Houston CMSA	42.1	+7.3
5.	New Orleans MSA	40.7	+3.1
6.	San Francisco CMSA	38.8	+8.3
7.	Washington, D.C. MSA	37.3	+4.4
8.	New York CMSA	37.0	+6.9
9.	San Diego MSA	34.6	+8.5
10.	Chicago CMSA	33.3	+3.5
11.	Norfolk MSA	33.3	+1.8
12.	Dallas-Ft. Worth CMSA	30.3	+6.1
13.	Atlanta MSA	29.8	+3.5
14.	Baltimore MSA	29.0	+1.3
15.	Sacramento MSA	26.8	+5.9

Note: MSA=Metropolitan Statistical Area; CMSA=Consolidated Metropolitan Statistical Area.

areas increased their minority share over the 1980s, but only 30 metros increased their shares by as much as 5 percent—most of these are located in the South and West.

Because of the concentrated nature of minority growth, minority composition varies widely across U.S. cities. Indeed 10 metro areas have "minority majorities" (where the "minority" population exceeds one-half). These include 5 small and moderate-sized Texas cities near the Mexican border, plus Honolulu, Las Cruces, San Antonio, Miami, and Los Angeles. An additional 69 metro areas with minority shares exceeding one-fourth are located largely in the Southeast, Southwest, and Pacific Coast States, along with a few large metros in the North and Eastern Seaboard.

But the vast majority (201) of the nation's metros house minority shares below 25 percent. In 97 of these the majority population share exceeds 90 percent. These majority-dominant metros are located primarily in the Northeast—west of the Eastern Seaboard, Midwest, and the Upper Mountain and Pacific Divisions. The four largest of these are Minneapolis-St. Paul, Providence, Pittsburgh, and Salt Lake City.

The Future

Looking to the future, should we expect to see the the United States majority and minority populations further differentiate themselves? The answer depends on whether or not current trends intensify. If present trends moderate, minorities would become more dispersed both across and within metro areas and regions. This could occur with greater assimilation of existing minorities and more emphasis on "skills" over "family" criteria for admitting immigrants to the country.

If current trends continue or intensify, we would see increasing disparity in distribution patterns between minority and white populations. Regional differences in age composition and income levels would sharpen.

At the extreme, two American residential norms would emerge both viable, but quite different in culture and style: the first, aging, largely white nonmetropolitan and small metropolitan communities in the Midwest; the second, young, vibrant, multicultural metro areas in the South and West. Such divisions exist only in embryo at this point. But even today's patterns have implications for regional political preferences, social services needed, and attitudes about major social issues, ranging from multilingual education to federal asssistance to homeless and poverty populations.

Natural Increase: The Beat Goes On

World population continues to grow at an unprecedented pace. In 1991 alone, about 93 million human beings were added to the globe. While experts differ on how foreboding such numbers are, most people are simply unaware of the magnitude of the increase.

World population (mid-1990)	5,383,886,000
Population growth rate	+ 1.7%
Total annual increase	92,543,000
Total daily increase	253,542
Total hourly increase	10,564
Total increase per minute	176

Here is a vivid way to convey the pace of world population growth for introductory population classes or presentations to organizations. First, procure a metronome—preferably one that is electronic and has a volume control. University music departments will often let you borrow one. At the beginning of the presentation, set the metronome to about 176 beats per minute (about 3 per second) and turn it on. You can ask the group to think about what each tick represents. (Frequently, someone will mistakenly guess that each tick is a birth.) Then, you can show some data on the board (see box; numbers from *PT*, July/August 1991).

Each tick represents neither a birth, nor a death, but a net addition birth that is not compensated for by a death.

Some groups find it particularly arresting to think that this ticking is continuous—occurring when they are eating, studying, and sleeping.

As an extension to this excercise you can show that most of this growth, about 164 beats per minute, is accounted for by population growth in developing countries (you can then set the metronome accordingly). The developed world is growing at about 12 ticks per minute—a setting that is not on most metronomes. You can also ask whether they think the ticking is getting faster or slower. The revelation that the pace is increasing, despite the slow decline in the world population growth rate, can lead to a discussion of exponential growth and population momentum.

—Leif Jensen

Leif Jensen is assistant professor of rural sociology at the Pennsylvania State University.

The Reader's File

...Aging successfully. Today's older woman is a pioneer, facing the challenges of aging in a society that has not yet come to terms with the issue, says a recent Urban Institute report. Components of successful aging include a self-perception of well being (including health, income, and housing), a capacity for independent activity, and a private safety net (including family and friends). Those who work with the elderly should shift from a preoccupation with symptoms of illness to an effort to maximize functional capacity.

Remarkable Survivors: Insights into Successful Aging among Women, by Alice T. Day. Washington, D.C.: Urban Institute Press, 1991. P.O. Box 7273, Dept. C., Washington, D.C. 20044. Phone: 301-459-3366. Cost: $42.75, cloth; $24.50, paperback.

...**Increase condom use?** Condoms are used less than half as often as they should be, leaving millions of people at risk of unwanted pregnancy, AIDS and other sexually transmitted diseases, a Johns Hopkins study estimates. In 1990, condoms were used in only about half the roughly 13 billion acts of sexual intercourse in which they were needed. The study recommends 30 ways to increase condom use.

Condoms—Now More Than Ever [1991], by Laurie Liskin, Chris Wharton, Richard Blackburn, and Philip Kesteleman. *Population Report* H-8, Population Information Program, The Johns Hopkins University, 527 St. Paul Place, Baltimore, MD 21202. Cost: $2.00. Phone: 301-654-6300.

...Impact of Gulf war on developing countries. The crisis in the Persian Gulf adversely affected many developing countries through spiking oil prices, loss of migrant worker remittances, and loss of export markets. In terms of proportion of the GNP, the war imposed costs of 31 percent in Jordan, 10 percent in Yemen, 5 percent in Turkey, over 3 percent in Sudan and the Dominican Republic, and over 2 percent in Egypt, Tanzania, Paraguay, Botswana, Jamaica, Mauritius, Chad, and Pakistan. An Overseas Development Council report, describes the situation through February, 1991.

"The Gulf Crisis: Impact on Developing Counties," in *Policy Focus*, 1991, No. 3. Overseas Development Council, 1717 Massachusetts Avenue, N.W., Washington, D.C. 20036. Phone: 202-234-8701. Cost: $2.00.

SOFTWARE

FIVFIV has long been a favorite at PRB and we're glad to see it improve with age. FIVFIV 10.0, just released, is the first PC-only version. Version 10.0 allows one to run both single and five-year projections in the same program. A welcome addition are the population pyramids (although not of "presentation" quality) for any or all of the 5-year dates of the projection. Projection results can also be output into a DOS text (ASCII) file format readable by spreadsheet or word processing software.

FIVFIV's new version incorporates the most recent model life tables at low levels of mortality (Coale and Guo, 1989), allowing for life expectancies up to 85.00 for females and 78.98 for males. Those levels, however, still limit FIVFIV's usefulness for developed country projections since many are reaching or near those life expectancies even now. This limitation can be overcome by inputing user-defined survival rates, however, a somewhat time consuming but not difficult process. The open-ended (oldest) age group is still set for "75 and over," a serious constraint when making projections for low mortality countries.

Other new features include improvements in input instructions, screen display, and the selection of a fertility model (Coale and Trussell, 1974).

Like the previous versions, FIVFIV allows you to perform long-range projections (more than 150 years), and sums the results of subregions or subgroups.

—*M.Y.*

Hardware requirements for FIVFIV are IBM-compatible computers with at least 256KB memory and one floppy disk drive. FIVFIV can be ordered for $25 from: Robert Sendek, The Population Council, One Dag Hammarskjold Plaza, New York, NY 10017.

POPULATION UPDATE

Estimated United States Population:

As of June 1, 1991	252,377,000
As of June 1, 1990	249,714,000

The above estimates, based on the 1990 Census, include armed forces overseas and are from U.S. Bureau of the Census *Current Population Reports*, P-25, no. 1076.

Estimated World Population:

As of October 1991	5,407,000,000
Annual growth	93,000,000

Extrapolated from the mid-1991 population on PRB's *1991 World Population Data Sheet*.

Latest Provisional Statistics for the U.S.: May 1991

	12 months ending with May					
	Number		Rate			
	1991	1990	1991	1990	1989	1988
Live births	4,143,000	4,103,000	16.4	16.4	16.0	15.7
Deaths	2,148,000	2,165,000	8.5	8.7	8.7	8.9
Natural increase	1,995,000	1,938,000	7.9	7.7	7.3	6.8
Marriages	2,419,000	2,437,000	9.6	9.8	9.7	9.7
Divorces	1,175,000	1,174,000	4.7	4.7	4.8	4.8
Infant deaths	37,800	38,700	9.1	9.5	9.8	10.1

Note Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births

Source *Monthly Vital Statistics Report* (vol. 40, no.5) from'the National Center for Health Statistics.

World Population Data Sheet in French

The Institut national d'etudes démographiques (INED) has once again made PRB's 1991 *World Population Data Sheet* available in French. The July-August issue of *Population & Sociétés* (Number 259) is devoted to the data sheet in 8 1/2 x 11" format.

Additional charts rank 31 countries along 12 major population indicators. For example, here are the first five entries of a 31-country chart showing the projected population in the year 2025. (The statistical notation has a European flavor.)

	Millions
1. Chine	1.590,8
2. Inde	1.365,5
3. U.R.S.S.	363,0
Europe des Douze	348,3
4. Etats-Unis	333,7
5. Nigéria	305,4

INED publishes the data sheet each year. PRB produces a French edition every other year, with the next one scheduled in Spring 1992. To obtain *Population & Sociétés*, No. 259, contact the Institut national d'études démographiques, 27, rue du Commandeur, 75675 Paris, Cedex 14. Fax: 33-1-43-27-72-40. Cost: FF 4,70 (about $1.00).

Population Handbook Updated

The Population Reference Bureau has just updated and expanded its classic *Population Handbook* in a third edition. The *Handbook* offers a clear guide to demographic basics (such as definitions of all major rates and ratios). Available in both a U.S. and an international version, the *Handbook* now includes new sections on race and ethnicity and households and families. A revised Spanish-language third edition is forthcoming, and the French-language second edition (adapted for Francophone Africa) is still available.

PRB's *Population Handbook.* Single copy: $5.00; discounts for multiple orders. To order, contact the Population Reference Bureau, 1875 Connecticut Avenue, N.W., Washington, DC 20009-5728, 1-800-871-9881.

TAKE A NUMBER

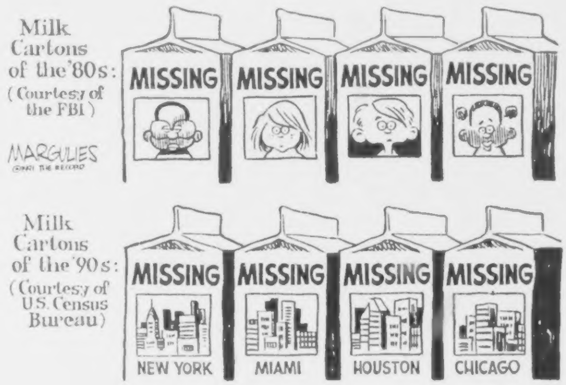
Measuring national progress. Any number of statistical yardsticks have been developed to measure a country's social progress—none of them completely satisfactory. The Human Development Index, developed by the United Nations Development Programme, is one of the more recent. This index is similar to past efforts, such as the Overseas Development Council's Physical Quality of Life Index (PQLI). The HDI uses three basic components, longevity, education, and income. The index is constructed by comparing a country's reported value on one of the variables used, such as life expectancy, to the range of maximum and minimum values worldwide. This yields a measure of the country's "relative deprivation" on the measure. Education is evaluated by using literacy and years of schooling while national income was measured using real Gross Domestic Product.

The results of the HDI analysis, published in the UNDP's *Human Development Report, 1991*, for the top and bottom 10 countries are listed below:

Top Ten			Bottom Ten		
Rank	Country	Score	Rank	Country	Score
1.	Japan	.993	151.	Guinea-Bissau	.088
2.	Canada	.983	152.	Chad	.087
3.	Iceland	.983	153.	Djibouti	.083
4.	Sweden	.982	154.	Burkina Faso	.081
5.	Switzerland	.981	155.	Niger	.079
6.	Norway	.978	156.	Mali	.072
7.	United States	.976	157.	Afghanistan	.069
8.	Netherlands	.976	158.	Guinea	.066
9.	Australia	.973	159.	Gambia	.064
10.	France	.971	160.	Sierra Leone	.048

Obviously, the index is quite sensitive to national life expectancy and GDP estimates; a glance at PRB's 1991 *World Population Data Sheet* will verify, for example, Sierra Leone's low life expectancy. The measure may be somewhat useful in comparing countries' progress on the measure over time. From 1970 to 1985, for example, Saudi Arabia's HDI improved by 0.343, while Malaysia's rose by 0.290. At the other end of the scale, Jamaica's decreased by 0.022.

ADDENDA



CURRENT READINGS

POPULATION POLICIES AND PROGRAMMES: LESSONS LEARNED FROM TWO DECADES OF EXPERIENCE edited by Nafis Sadik, New York: United Nations Population Fund, 1990. 464 pages, $50.00 (hard cover), $17.50 (paper).

The history of organized program efforts to promote the practice of family planning is a relatively short one. This volume, under the editorship of Nafis Sadik, director of the UN Population Fund, identifies a broad base for joint programming and interagency cooperation so that resources can be more effectively mobilized at the global, national, and regional levels. This study consists of three in depth reviews in population policy development: (1) maternal and child health, (2) family planning, and (3) population information, education and communication.

Until a few decades ago, countries rarely expended public resources to assist individuals who wished to control their fertility. As a result of expanded services, contraceptive prevalence in the developing world has risen from 9 percent in the early 1960s to 48 percent in 1987 (as compared with 71 percent in developed countries). Given today's population momentum, maintenance of these rates would require the total number of protected couples in the world to increase by almost 100 million, from 459 million to 559 million by the year 2000. In less developed countries (with the exception of China), an average of 20 percent of married women do not want another child but are not using contraception. Rates of contraceptive use could increase greatly if services become available to these women.

Since most of the growth in population occurs in the developing countries, more than 90 percent of the increase in numbers of protected couples must be achieved there. To lower the TFR (total fertility rate, or average lifetime births per woman) to 3.3 in developing countries by the year 2000—a goal in accord with the United Nations medium variant population projection—contraceptive protection would have to increase from 326 million couples in 1987 to 493 million by 2000. Great progress has already been made and this drastic increase in the number of new users is believed to be achievable if the necessary political support and resources are applied.

A few management ideas stand out: firm political support by government is essential to successful national population programs. Population information, education, and communication must increasingly be employed for building and maintaining awareness of population issues not only among leaders but the public as well. On the other hand, reliable and recent socioeconomic and demographic information is vital for successful education programs and strategic planning of family planning programs. Improving the role and status of women is a key element for success.

Programs work best when specially adapted to particular social and cultural settings as occurred in Indonesia. It is possible to coordinate population policy formation with development planning, as happened in Mexico and Thailand. And, quality data and analytic capacity make it possible to assess program success reliability, as demonstrated in Indonesia and Tunesia.

The study offers various regional perspectives. It shows the national trends, constraints, and favorable aspects of population programs in Sub-Saharan Africa, the Arab States, Asia and the Pacific, and Latin America. It also reveals programmatic issues specific to each region. Sources include published and unpublished research, along with project and programming experience, accumulated in UNFPA archives since 1969. Population Policies and Programmes will be of interest to anyone involved with population policy.

—Farzeneh Roudi

FEEDING TOMORROW'S WORLD, by Albert Sasson. Paris: United Nations, 1990. 805 pages. $56.25, ISBN 92-3-102083-8.

This handbook, published by UNESCO, provides in-depth, technical information relating to world food supply and hunger. Sections cover nutrition, agricultural production, and international food aid. Sasson states that the book is geared toward the layman as well as the specialist. It is an appropriate reference tool for professionals and students of international agriculture and economic development.

The book discusses several major issues: what is really necessary for basic nutrition of adults and children in less developed countries; effects of malnutrition on health and well-being; food production and technological advances; environmental factors of agriculture; and prospects for the future eradication of hunger.

One section discusses the evolutionary basis for breastfeeding which explains the development of its contraceptive effects. Sasson points out that the hunter-gatherers had an average gap between births of 4.1 years. He attributes this relatively large average gap of birth spacing to lengthy breastfeeding by these women. The survival value is obvious: women who had to physically carry more than one infant at a time would have found their movements severely restricted.

Sasson concludes by stating that hunger is not merely a technological problem, rather, the greater part of the problem is political in nature. He recommends more research in agriculture, improving marketing networks, and increasing the accessibility of loans to developing nations.

—Minki Chatterji

SPOTLIGHT

India

(Part 2 of 2)

Population (1991): 859,200,000
Total area: 1,269,340 sq. mi.
Population density: 677 persons/sq. mi.
Births per 1,000 population: 31
Deaths per 1,000 population: 10
Rate of natural increase: 2.0 percent
Total fertility rate: 3.9 children per woman
Infant mortality rate: 91 per 1,000 live births
Life expectancy at birth: 57 years
GNP per capita: $350
Capital: New Delhi

by Jianbin Zheng

While a notable decline in fertility has occurred in India over the past two decades, especially in certain regions, the sheer size of India's population, plus the "momentum" resulting from a relatively large proportion of women in the childbearing ages, assures relatively rapid growth. India now grows about 2 percent per year, adding 17 million annually—about the equivalent of adding the total population of Australia every twelve months.

U.S.S.R.
AFGHAN-ISTAN
Chinese line of control
Indian claim
CHINA
PAKISTAN
New Delhi
NEPAL
BHUTAN
INDIA
Calcutta
BURMA
Bombay
Arabian Sea
BANGLADESH
Bay of Bengal
SRI LANKA

India's crude birth rate had hovered around 42-44 per 1,000 population per year in all of the states throughout the 1960s. Growth rates were highest during the decade 1961-1971, when the population grew by 25 percent, a figure that was essentially matched in the following decade. The 1991 Census, however, suggests the beginning of a slowdown. It showed only a 23.5 percent increase over 1981-91 period. In absolute terms, the population increased by 161 million between 1981-91.

Between 1961 and 1986, the national crude birth rate declined by 25 percent; nearly three-fourths of the decline occurred in the mid-1970s. India's total fertility rate fell from 5.8 in 1960-1964 to 4.2 in 1986 with more rapid declines occurring in southern states than in the North. An effective national family planning program contributed to this largest-ever fertility decline in India. The proportion of the national budget devoted to family planning programs more than quadrupled—from less than 0.5 percent in the 1960s to 2 percent in the 1970s. Family planning programs are thought to have averted over 85 million births between 1956 and 1986. It is further estimated that as of March 1987, 55 million Indian women, or about 40 percent of married women age 15-44, were using a modern method of contraception.

Despite the increasing use of family planning services (albeit unevenly from state to state) and an increasing age at marriage, the nation's crude birth rate remains above 30 births per 1,000 population. Only 11 percent of the Indian population lives in states where the crude birth rate is below 25; over 40 percent of the total population lives in states where crude birth rates are in the mid and upper 30s.

The big question, of course, is when—and if—India's fertility will fall to the "replacement" level of two children per couple. World Bank projections show that if India reaches the two child family by 2015, it will grow to 1.9 billion, possibly taking China's crown as the most populous country.

India's population remains relatively young—36 percent are under age 15. Marriage rates are also extremely high, and many social and cultural norms encourage large families. Further fertility declines, therefore will largely rely on the vigor of family planning programs, and especially on efforts targeting young couples. Such programs would have to be accelerated over the next two decades in order to curb India's burgeoning population growth.

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